The Health Magazine of the American Medical Association

SEP 23 1941

HYGEIA

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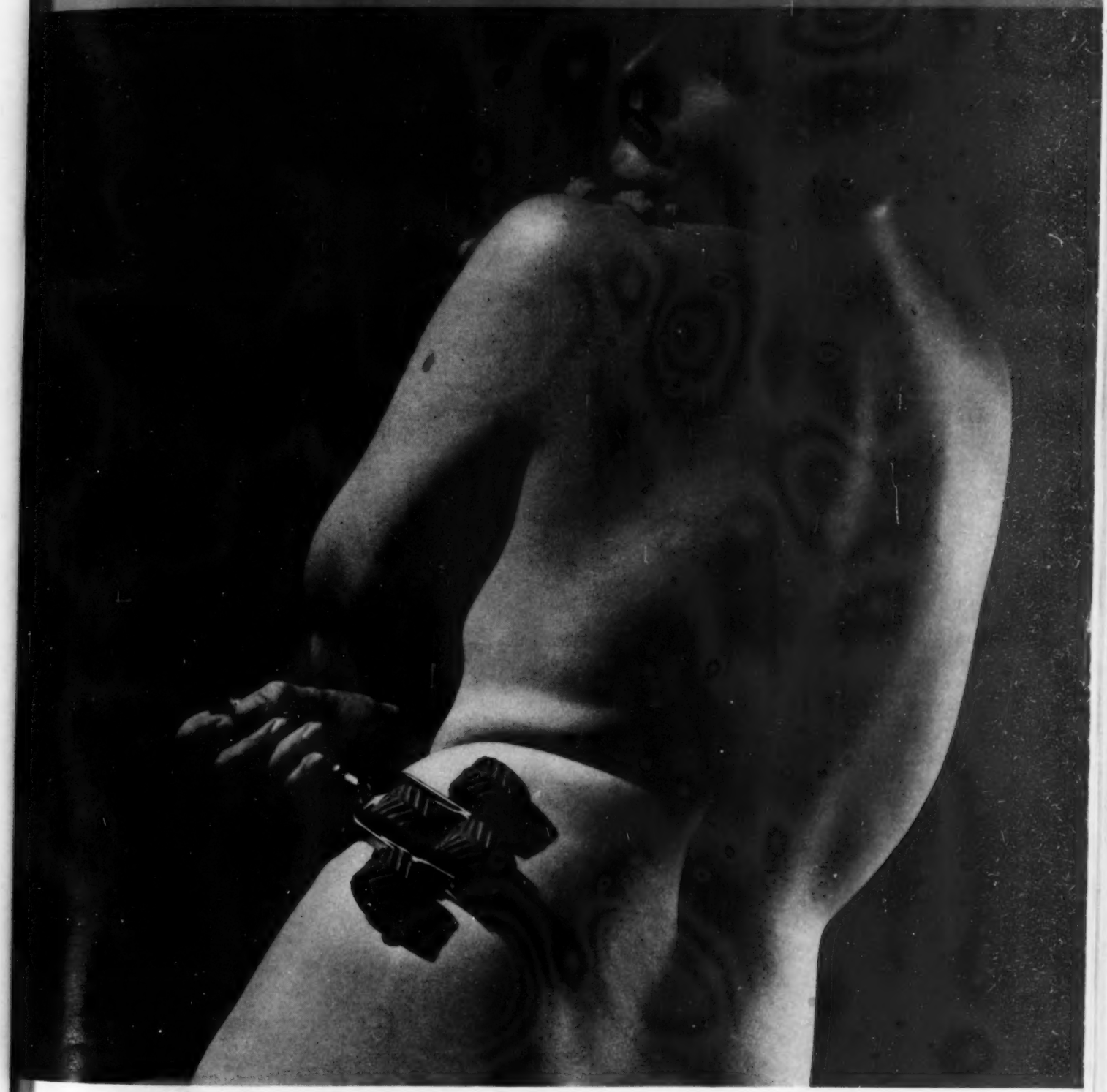

GIRTH CONTROL see page 778

OCTOBER · 1941 · 25c

How to guard your Child against his friends

As soon as your child enters or returns to school, he establishes contact with countless families other than his own.

Directly or indirectly, he is exposed to whatever health hazards may exist among the families of his schoolmates, his friends—and *their* friends.

Hence, it becomes increasingly probable that somewhere in this widening circle of contacts a communicable disease may strike—and start to claim its chain of sufferers.

Isn't there anything you can do about it? Yes, there is. You can take your youngster to the doctor now—*before* sickness strikes.

A check-up by your physician now may be the means of correcting a health deficiency that would cause trouble later. Changes in diet, or in habits of play or sleep or exercise can make the child more resistant to contagion. And—most important of all—your doctor can determine whether a definite immunization program should be carried out.

He can make your child immune to smallpox. So successful is the precaution of smallpox vaccination that, wherever it has been systematically used, the disease has virtually disappeared. Diphtheria can, of course, be prevented by immunization. Inoculation provides dependable protection against typhoid fever. And effective agents have now been developed for the prevention of whooping cough and scarlet fever.

Which of these safeguards should your child be given? At what age should he get them? When should vaccinations or inoculations be repeated?

You can't decide these things, but your doctor can. Take your youngster to see him now—and you may save yourself some anxious days and nights this winter.

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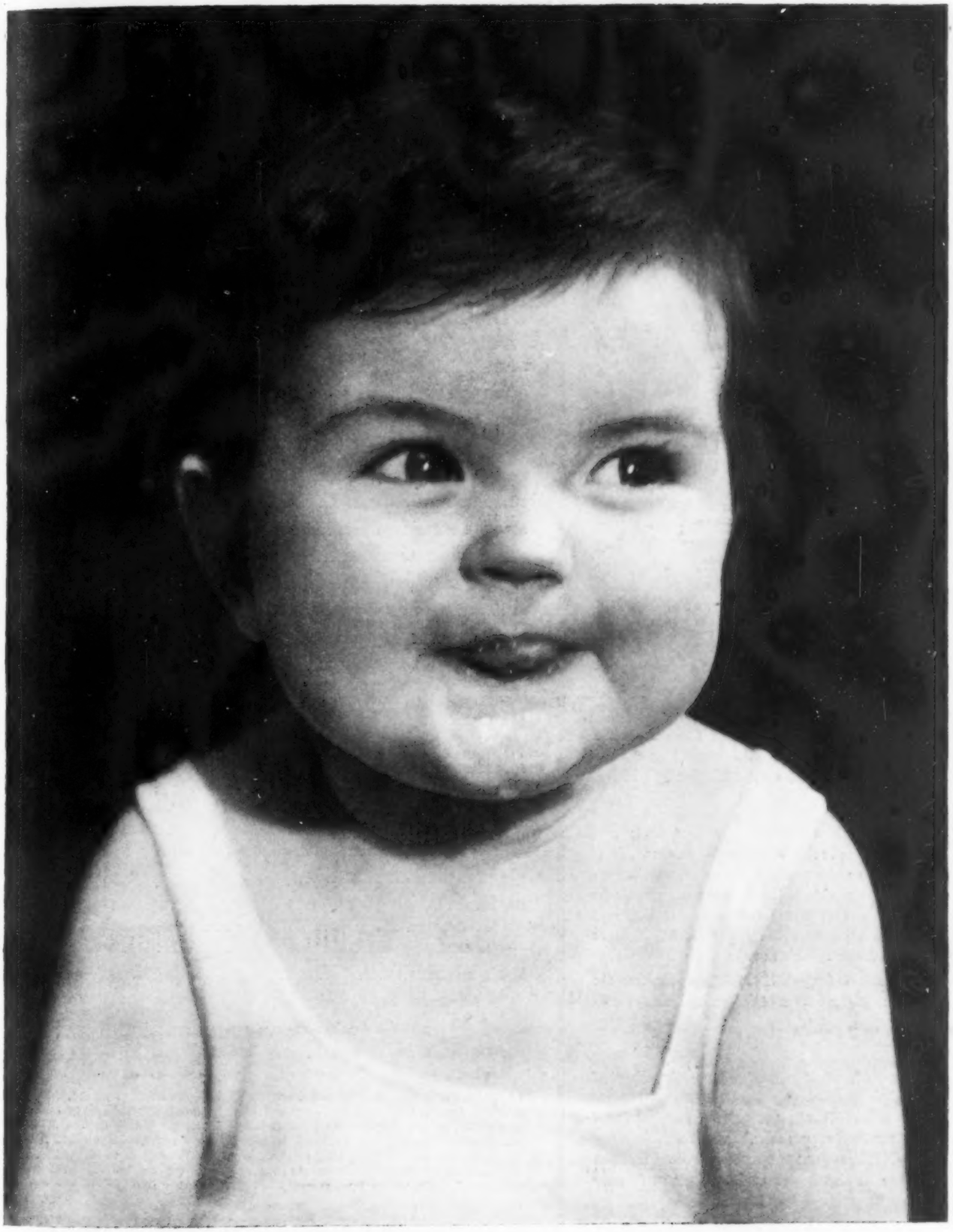
DETROIT, MICHIGAN

Seventy-Five Years of Service to Medicine and Pharmacy

SEE YOUR DOCTOR



BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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FORECAST

Visits to the obstetrical department of the hospital are governed by conventions at least as severe as those which set the pattern for a coronation or a caucus of the teamster's union. Patient and visitor are required to spar cautiously at the opening, exchanging observations which bring out pretty conclusively the fact that the mother certainly doesn't *look* as though she'd had a baby just three days ago, or five days ago, or eight, as the case may be, the further fact that she never felt better in her life, and the final fact that the nurses simply *adore* the baby, whose sex the visitor has forgotten temporarily.

A light, amusing article—"Baby's a Busy Body"—concerning the first few days of a baby's life in a hospital by R. M. Cunningham Jr., author of "Specialists in Plain Clothes."

The aim of all branches of the armed forces of the United States is to turn out in the shortest possible time a soldier who is 100 per cent a fighting man. On the Morale Branch of the army falls the twin burden of helping to keep the soldier physically fit and mentally alert and happy. The Athletic Section plays an important part in the many-sided activities of the Morale Branch, for athletic work builds up the physique of the soldier, gives him an aggressive fighting spirit, trains him in the elements of combat, and provides healthy development and recreation in off-duty hours.

Major Theodore P. Bank discusses the necessity of "Army Athletics" for America's armed forces in the November issue.

Personality is a dynamic system of traits that makes one person different from another. It is dependent on the surrounding culture and its patterns are reconstructed with every change of the organism and in the environment. It does not belong to a person but is rather his attributes as a living, behaving organism.

Next month Evelyn M. Carrington discusses the relationship of proper environment to sane sex attitudes.

Your blood is a marvelous blending of mysteries on which every organ in your body is absolutely dependent for the food and air to keep it alive and working for you. It is your own private defense system in the never ending "all out" war between you and disease.

Lois G. Lobb, M.D., explains how your doctor—from a few drops of blood—can learn an amazing amount about your body and its defenses.

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1941, by the American Medical Association. Edited by Morris Fishbein, M.D.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 19, Number 10. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

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Help your baby build sound teeth!

If you want your baby to have the best possible permanent teeth, give him help now to build his *first* teeth properly. He must have plenty of Vitamin D to help develop sound teeth. Start him on Squibb Cod Liver Oil!

Never miss a day

Your baby can't get enough Vitamin D outdoors at this season! Clothing interferes. So do cloudy weather, smoke, and fog. Food alone cannot be depended upon to make up this vitamin lack. Give a source you can depend on *every day of the year*, Squibb Cod Liver Oil!

A straight strong back

Your baby's posture in later life may depend on building a straight strong back now. From a well-balanced diet, he gets the minerals to build his bones straight and sound; from Squibb Cod Liver Oil he gets the important Vitamin D which he needs to help in utilizing minerals for the development of a fine, full chest . . . a well-shaped head . . . straight legs . . . a strong back.

This seal is your protection!....Insist on *Squibb* Cod Liver Oil to be sure of full vitamin value for your baby. It provides twice as many Vitamins A and D as cod liver oil which meets minimum requirements of U. S. Pharmacopeia. Millions of mothers know its excellent vitamin value, its economy. They confidently ask for Squibb Cod Liver Oil. At any drug store....*The priceless ingredient of every product is the honor and integrity of its maker*

SQUIBB *Cod-Liver Oil*

"The Adcomber"
looks at Hygeia ads

Since 1930, month after month, Mead Johnson & Company has been saying it with charming child pictures, on the first inside page of Hygeia. Note the one this month—and the single line message below.

• • •

It's true about thumb sucking: it CAN cause deformities . . . but *you can stop it!* Note page 857

• • •

There's a time and a place for chewing gum—AND A REASON. Page 861.

• • •

Have you a BIG brassiere problem? You'll be glad to know about Maiden Form's "Extra Large Allo"—page 842.

• • •

Three ideas for EXTRA IRON—all with "child appeal" a-plenty. Page 827.

• • •

An easy chair for baby—the gift ideal! See it on page 850.

• • •

Quiz ?—Why does Nonspi check underarm perspiration?
Answer—(On page 836)
Thrift Offer—(Also on page 836)

• • •

Want a strong stand-in with the younger generation this Christmas? Or sooner? Frank F. Taylor can tell you how, pages 848 and 849.

• • •

Like breakfast? Like to like it better—and feel better? Page 829 has a workable suggestion, under the head of "How to Make the Most out of Life."

• • •

If you have not yet Luxed your baby's woolies, you have a happy discovery in store . . . So has your baby! So says the triplets' mother, page 855.

• • •

Covertroubles? Snuggle Bunny, for baby's crib, is one of the best answers we've heard.. page 850.

• • •

You'll agree—the "bulbsnatching" bugaboo becomes really ridiculous in the light of the few cents it costs to keep plenty on hand! Some surprising facts on page 835.

• • •

You can give your face a "pick-up" and your beauty budget a square deal by using the little coupon on page 845.

• • •

No need to guess about fevers in the family any more . . . Taylor BINOC Thermometer is *three times easier to read.* Proceed to page 831 and note improvements.

• • •

Modern engineering principles come to baby's aid in the valve-action Evenflo Nurser . . . natural nursing . . . no collapsed nipples. See page 849.

THE ADCOMBER

LETTERS FROM *Readers*

Surgeon's Progress

To the Editor:

I enclose herewith the July 1938 issue of the Medical Bulletin of the Veterans' Administration, which you will find on page 1 describes the first arthroplasty of the hip ever done with the use of vitallium cup. I would greatly appreciate it if you would be kind enough to give credit for priority. The article, entitled, "Surgeon's Progress," published in your September 1941 issue of HYGEIA and reprinted in the September issue of the Reader's Digest fails to mention this contribution.

H. H. HOPKINS, M.D.
Rochester, N. Y.

To the Editor:

On reading an article named "Surgeon's Progress" in the September 1941 Reader's Digest, I read, ". . . A dentist told . . . of a remarkable new metal alloy called vitallium, developed by Dr. Charles G. Venable of San Antonio, Texas." I was of the impression that both Dr. Venable and a Dr. Walter G. Stuck equally shared in the discovery of this metal; at least I remember seeing both of their names in the original article in *The Journal of the American Medical Association.*

PAUL L. STUCK, M.D.
Chicago, Ill.

In the article "Surgeon's Progress" by Lois Mattox Miller, published in the September 1941 HYGEIA, *it was stated that Dr. M. N. Smith-Peterson was the first to use a vitallium cup in arthroplasty of the hip. Although Dr. Smith-Peterson's long pioneering in this procedure (with cups made of various materials) is generally recognized, it has been called to our attention that the first use of a vitallium cup was made by Drs. Heywood H. Hopkins and Frederick N. Zuck in a patient in the Veterans' Administration facility, Bath, N. Y., on February 11, 1938, and that the case was reported in the Medical Bulletin of the Veterans' Administration of July 1938. Dr. Smith-Peterson's first vitallium mold was made and inserted in June 1938.*

The same article also should have mentioned Drs. Walter G. Stuck and Asa Beach who were associated with Dr. Charles S. Venable in the studies of the electrolysis of metals and the use of vitallium in treating fractures.—ED.

By the Skin of Their Teeth

To the Editor:

In the first paragraph of an article entitled "By the Skin of Their Teeth" by S. R. Winters, in the July 1941 issue of HYGEIA, the statement is made ". . . 22 per cent of the American men drafted for military service have been rejected because of dental ailments."

This statement happens to be very misleading. Of the total number of men rejected because of physical reasons 19.5 per cent were rejected because of dental defects. The total number of men rejected because of dental defects was 8.3 per cent.

Later in the same article, the statement is made that "58 per cent of the people in Washington can afford dental treatment." Once again this is a misleading statement and undoubtedly deduced from the belief of several authorities that in the country as a whole, 58 per cent of the people can afford some or all necessary dental treatment, other than extractions.

PAUL E. MORGAN, assistant secretary, National Dental Hygiene Association
Washington, D. C.

The source of this information may be found on page 7 of the Journal of the District of Columbia Dental Society, March 1941. Colonel Leonard G. Rowntree, chief of the medical division of National

A loneliness he can't explain . . .

"*You can't play with us.*" These are lonely words in the heart of a child. Yet being "left out" of normal childhood activities usually is not due to faults of temperament, personality or disposition. Johnny just *can't* catch a ball. Billy stumbles as he runs. So they sit on the sidelines, unwanted.

Too often we parents blame it on the child, and shirk our own responsibility. We tell him to "go out and play" . . . when he knows there is no one who'll play with him. We lecture him on "the need of making friends" . . . when his heart is crying for friendships held aloof from him. But we *fail* to investigate and remedy the basic, physical cause of his loneliness.

Have his eyes examined. Faulty vision is a defect about which he cannot tell you. He doesn't catch the ball because he doesn't see it clearly. He stumbles over objects, clear to others, but half-hidden to him. *He* thinks that's the way things look to everybody. He has no standard of experience to guide him.

It is up to you. Your understanding action may light a world of friendly faces for him.

Soft-Lite Lenses are made by Bausch & Lomb for the Soft-Lite Lens Co., Inc. New York, Toronto, London.

Where absorptive lenses are needed, Soft-Lite Lenses are often prescribed for children as well as for adults to provide protection against glare and over-brightness. Delicately flesh-toned, they are inconspicuous.

Soft-Lite Lenses

NOW MARCELLE PRESENTS A NEW BEAUTY AID

CREAM Deodorant

Petal-soft your skin may be—and as needful of careful handling. Petal-fragrant you must keep it—especially in that treacherous underarm area, so malodorous when it goes untended...

To help keep these dainty qualities of your skin, Marcelle—for eight years distributors of Safe Cosmetics—now presents a new cream deodorant. EFFECTIVE because it contains aluminum sulphate. MILD because skillful cosmetic chemists have blended it of purest emollient ingredients. RELIABLE because it belongs to the Marcelle family of cosmetics—known to doctors and their patients everywhere.

Groom yourself with Marcelle's newest safeguard for loveliness. Protects from one to three days... Deals gently with dainty skins ... Helps keep you petal-fresh.

If your dealer cannot supply you, write direct for information. A full ounce jar—50 cents!

Marcelle COSMETICS

ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION

1741 North Western Avenue, Chicago, Ill

Headquarters, Selective Service System, states, "twenty-two per cent of the men rejected at army induction stations have been for dental defects."

At the Five-State Post Graduate Dental Clinic held in Washington on March 10, 1941, Lt. Colonel Albert N. Baggs of the National Headquarters of the Selective Service System, said: "Up to this date, 22 per cent of those who have been passed on to the army induction stations have been thrown out because of defective teeth."

The statement that "58 per cent of the people in Washington can afford dental treatment" was based on figures released by the United States Public Health Service. Various surveys were made covering specific areas in the United States and were used as a standard of comparison in arriving at similar figures for other areas, one of which was the District of Columbia.—ED.

Who's Who IN HYGEIA

BRIGADIER GENERAL JAMES A. ULIO, author of "Building Military Morale," page 792, was born in Washington. He entered the army as a private in 1900 and graduated from the Army War College in 1934. General Ulio served the army extensively in military affairs, as well as in civilian positions. Following World War 1, he was with General William N. Haskell in Armenia. He has also seen service with the American Red Cross in Athens, Greece.

When the army recently created the Morale Branch, General Ulio, who is also assistant adjutant general, was appointed chief of this new and highly important division.

Before the creation of this new branch, morale matters in the army were under the direction of the Morale Division of the Office of the Adjutant General. Now, however, this new branch operates directly under the chief of staff in a position equal to that of the other services.

FRED W. NORRIS, M.D., author of "Girth Control," page 778, received his bachelor's degree from Texas Christian University, Fort Worth, Tex., and his M.D. degree from the Texas University Medical School, Galveston, Tex. He is a member of the A. O. A., an honorary medical society, and also an associate member of the District of Columbia Medical Society.

Following his internship in Galveston at the Associated University Hospital, he spent two years in medical practice in the tropics and two years in private practice in Texas. Then he became associated with the United States Government and for the last eleven years has been with the Food and Drug Administration. Most of his work in this capacity has been in the Collaborative Section, thus giving him an intimate knowledge of the various federal regulatory agencies.

His hobbies consist of swimming, motoring and helping rear a family of seven adopted children.

WILLIAM HARDWICK, author of "'Sure Cure' for Baldness," page 802, was born in Spokane, Wash. His interest in writing received its initial impetus when he was in the sixth grade in grammar school. At that time he won first prize for a composition entitled "What Makes the Telephone Work." The prize?—a five pound box of candy and an impressive letter of praise.

His chief hobby is writing articles in his spare time. He also does short stories, radio scripts and motion picture originals. Someday, he feels, he would like to try writing a novel, too.

He has been married for almost seven years, and has a family of two boys and a wire-haired terrier. His oldest child is 4 and the youngest is a 7 month old baby.

"Milder than 10 leading toilet soaps"

"Milder than Imported Castile soaps"

"Milder than any other widely advertised white floating soap"

NEW *"Velvet-Suds"* IVORY SOAP Milder Than Ever Before

New High Standard of Ivory Mildness Supported by Hundreds of Skin Patch Tests

Technique Approved by Leading Dermatologists!

● New Improved Ivory Soap was launched only after exhaustive tests which gave evidence of a new high standard of Ivory mildness. Now Ivory is actually milder than before.

Milder than any other widely advertised white floating soap. We have tested every white floating soap that is widely advertised with radio, newspapers or billboards—testing by a method approved by eminent skin specialists. These tests show Ivory Soap definitely milder, kinder to skin.

Milder than 10 leading toilet soaps. Hundreds of skin patch tests have conclusively proved that New "Velvet-Suds" Ivory is milder than 10 leading toilet soaps. The technique of the tests was approved by leading dermatologists.

Milder than imported castiles. A recent report on 44 examples of imported castile soaps, purchased at random in 6 cities, disclosed that 42 of these samples showed definite evidence of decomposition and rancidity. These soaps are far below the high standard of Ivory mildness.

The Ivory Soap now at your dealer's is the New "Velvet-Suds" Ivory. Try it today!

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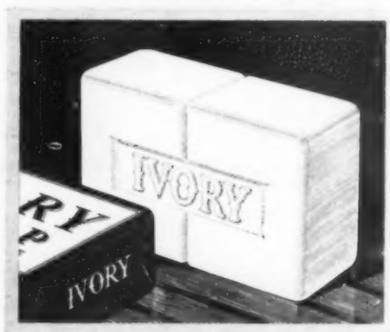

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Infantile

Homer Jensen

Recent research carried out at the Johns Hopkins University Hospital under a grant from the Commonwealth Fund indicated that the virus or infectious agent causing infantile paralysis attacks various cells and also various portions of the nervous system, sometimes even skipping enough cells so that paralysis does not occur, thus accounting for the cases of this disease with fever and illness but without any paralysis.

Paralysis

THIS YEAR the United States has been visited by infantile paralysis of unusually wide dissemination and severity. The opening of many schools in Pennsylvania was postponed on account of the spread of the disease. Up to the first of September, 18 deaths had been reported and more than 250 cases had occurred in the 11 eastern and central counties in the state. More than 60 cases had occurred in Passaic and Bergen counties in New Jersey. There had also been extensive incidence of infantile paralysis around Winnipeg, in northern Florida, Alabama, Georgia and Tennessee. Fortunately, the disease had not spread to any extent among the soldiers in our camps.

Progress is being made steadily in adding to our knowledge of infantile paralysis. One of the most fascinating pieces of information was developed recently at the Johns Hopkins University Hospital, when Drs. David Bodian and H. A. Howe showed that the virus, or infectious agent, responsible for this disease, once reaching a nerve, will travel along that nerve at the rate of about 2.4 millimeters an hour. Two and four-tenths millimeters represents about .094 inch. Other research carried out in the same institution, supported, incidentally, by a grant from the Commonwealth Fund, indicated that the virus attacks various cells and various portions of the nervous system, sometimes indeed skipping enough cells so that paralysis does not occur. This accounts for the cases of infantile paralysis with fever and general illness but without any paralysis. If, however, enough of the motor nerve cells are attacked by the virus in a certain area, the muscles concerned may lose their function. The investigators were able to prove also that it is quite possible for this virus to attack the brain and not at the same time the spinal cord.

For years various views have existed as to the way in which poliomyelitis enters the body of man. The most common view held was that the condition got into the nose and breathing tract, from which point it invaded the nervous system, traveling along the nerves that enable us to smell. This concept resulted in the view held some years ago that infantile paralysis might be blocked by using a solution which would block these nerves. Again it was thought that the virus in infantile paralysis could enter the skin through an insect bite. It was found, however, that virus was present in the excretions from the bowel. This clue led investigators to a new method of study which establishes with certainty that the stomach and gastro-intestinal tract are the usual portal of entry of infantile paralysis into the body and that existence of virus in the excretions from the bowel may be the means by which the disease is spread. Indeed already there is evidence from intensive study of some of the recent outbreaks that virus capable of causing infantile paralysis can be found not only in the bowel excretions of persons who have had the disease but also of persons who have been in contact with cases of the disease but have not themselves been ill. This does not mean that on occasion the virus may not enter through nerves other than those in the throat, stomach and intestines. It does mean that these are the usual place of entry.

Perhaps out of these newer studies may come means of control which will lead ultimately to the elimination of the disease as a threat to mankind, exactly as typhoid, spread by similar routes, has been largely eliminated.

Girth Control

By FRED W. NORRIS

IF THAT "PERFECT 36" has become an imperfect 46, if your waist is larger than your chest, if that former trim figure lies buried beneath rolls of fat, if exercise has no more appeal and your favorite indoor sport is eating, if you have stopped growing at the top but are still enlarging in the middle, then the reducing claims made for elastic belts and girdles may particularly attract you if they have not already done so.

United States Department of Commerce statistics for 1939 show a production of abdominal supporters, braces and surgical belts valued at $2,092,031 wholesale. Allowing the usual 100 per cent rise in retail prices, the American public spends over four million dollars annually for garments, a large number of which are sold for reducing excess fat from the abdomen, hips, breasts and the body generally.

One company alone was found a few years ago to be grossing a half million dollars annually in sale of girdles for reducing. It was forced by an agency of the federal government to cease making further reducing claims by mail in interstate traffic, but its local department store business amounting to a quarter of a million dollars a year has since regularly continued without regulation. This company is but one of a score of similar, though smaller, companies that have been forced by federal regulation to stop their interstate business, but still continue to make as many or even more local sales across the counter or in intrastate business.

Recent inspections in a number of department stores in several of our larger cities showed that a number of saleswomen are regularly offering elastic girdles as alleged means of removing excess fat from the wearers. These local sales are commonly subject only to city and state laws, some of which have less severe penalties than federal statutes. Generally, too, the facilities of local enforcement agencies are inadequate for the task of properly regulating all fraud laws. Some large department stores are conscientiously refraining from making reducing claims for their elastic garments. Other stores merely repeat the reducing claims made to them by the manufacturers or allow the manufacturers' agents space in the store for making their own sales. Whether representations are made in ignorance or with deliberate intent to deceive, there are still many people, both men and women, who buy elastic garments expecting to reduce their girth or hip and chest measures by removal of excess fat.

These supposed reducing girdles range from a few inches in width to full-length coverage of waist and hips, some including the breasts. Generally, the alleged reducers are made wholly of rubber and cloth materials without rigid or semi-rigid supports. Some are of rubber in which are punched small holes supposed to act as effective ventilators. Most of them are woven with cloth covered rubber strands. All of them are alleged to have some new and wonderful weave, pull or action which supposedly differentiates them from the rigid, semi-rigid or elastic corsets, foundations and girdles formerly or usually worn, thus forming the basis for charging greatly increased prices over those usually paid for ordinary, though similarly constructed, garments sold without reducing pretensions.

The inefficacy of girdles for reducing has been repeatedly emphasized by the American

Stephen Deutch

Many persons uselessly purchase various devices operating on the fallacious theory that massaging the skin will remove underlying, excess fatty tissues.

Medical Association. There has also been an uninterrupted course of successful regulatory court actions throughout the years by several federal regulatory agencies. Despite these facts, new companies selling essentially the same devices under similar reducing claims are constantly springing up. Some operate for considerable periods before the federal agencies can institute and conclude fraud proceedings.

Over store counters and through these new companies engaging in mail-order and other interstate traffic, thousands are uselessly expending their money for purchase not only of girdles but of various other devices operating on the same fallacious theory that massage of the skin will remove the underlying, excess fatty tissues. Devices shaped like a rolling pin and those with wooden handles having on one end a set of rubber wheels or balls to be rolled or rubbed over the skin are widely sold. All these are supposed to massage the excess fat deposited between skin and muscles —as well as the deeper fat surrounding or within the vital organs—causing excess fat cells and tissues to be oxidized or burnt up. The wearers of these belts are told that without any change in their former diet and exercise they can easily and surely lose just the amount of fat desired and still continue wearing the

belt without any further weight losses. Some companies claim their devices will reduce the fat just beneath the belt or under the skin massaged, and other companies pretend the weight loss will be general.

At many Government hearings involving the truth or falsity of reducing claims made for girdles and massaging devices, the manufacturers of these girdles have attempted to prove that their belts have actual reducing properties by statements of wearers who may have really decreased their weight and girth measure while wearing such devices. Others have secured testimony of medical doctors, osteopaths, chiropractors and belt fitters who have had a few patients or clients who seemingly or actually did reduce size and weight. In such instances no account was taken by the observers of the fact that in time rubber garments under constant pull, especially if constantly bathed in perspiration, tend to become larger. Furthermore, there has been no showing that exactly the same diets and same amounts of physical exercise were followed during the wearing of belt as before. No account has been taken by such witnesses of the changes in the size of the abdomen due to variable amounts of the materials within the intestines. Some of these witnesses have testified that during certain periods while wearing their belts they actually gained weight, although having been reduced at other times. Some have testified that they lost just the amount of fat desired and then continued to wear the same or smaller belts without any further changes in size or weight.

Specialists testifying for the Government have observed no increase in basal metabolism of women who wear elastic and other girdles. They have all observed, too, that thousands of women and girls who have no desire and make no effort to reduce maintain and often increase size and weight while wearing garments of construction similar to the alleged reducing belts. The observation is also general that adolescent girls, while wearing tightly constricting elastic girdles, routinely secure their normal hip development during puberty, including considerable deposits of fat. Some doctors have examined those who maintained or even increased their weight while wearing these girdles heralded as fat reducers.

These Government witnesses have all indicated their belief that such devices are not effective as "spot-reducers," since they have never noted any sharp demarcation as by ridges or depressions forming in the fat underlying the skin at the upper and lower edges of these girdles as compared with nearby fat that is not under pressure of the belt. The elastic and semi-elastic belts worn by men have not been found to massage deep or noticeable depressions in the fat underlying the skin pressed on. There have been presented no pictures or other evidence to show that massaging by hands or devices has removed fat from organ or area on one side of the body and left the opposite one unaffected. The testimony has been that both deposition and loss of fat are always generalized.

It is a well-known fact that persons of normal weight and even those who are underweight have considerable fatty tissues underlying the skin of abdomen, hips and other parts which constitutes an appreciable proportion of normal weight. It is generally acknowledged, also, that this normal fat has exactly the same composition as the excess fat deposited in the same areas of obese persons.

No scientific evidence has been brought forth by the manufacturers to show that elastic belts or other alleged massaging devices affect the fat cells, tissues or deposits in the obese in a manner radically different from the normal fatty pads of those who are not excessively fat.

(Continued on page 849)

BEAUTY and OBESITY

WEIGHT PROBLEM BOTHERS DIONNES:
QUINTUPLETS ARE GOING ON A DIET
—Headline in the Times

Poor, plump, inhibited Five,
Unhappy Quintses.
Scarcely a female anywhere alive
But counts her luncheon calories and winces,
Reading what's said of you
And brooding on the fate that lies ahead of you.

Alas, the waist that strains the bib and tucker,
The lovely bread that's buttered over par!
Alas, the bonbon and the all-day sucker!
Alas, the cookie jar!
Now 'tis the daily dozen you give up to,
And bending from the hips,
Since it's decreed that childish lines live up to
The faces that have launched a thousand quips.

Well, better dry your tears and comb your curls,
And learn it early, girls.
The scales were never any woman's friends.
These trials are but a sample.
There's a divinity that shapes our ends
Now wisely but too ample.
And the one thing a lady cannot do
Is eat her cake and have her figger too.

—PHYLLIS MCGINLEY.

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Conquerors of Yellow Fever

By PHILIP S. HENCH

AT THE CLOSE of the Spanish-American War thousands of American soldiers returned home to be received like conquering heroes. But others returned home not so victoriously. Some were soldiers whose bodies had been weakened by fever and some were in coffins—soldiers who had met death at the hands of an enemy more powerful than any Spaniard. For disease, especially yellow fever, had killed more soldiers than had the bullets of the enemy. Day after day, strong young men became hot with fever and wracked with pain; then they turned yellow, suffered with the dreaded "black vomit" and died at the rate of as many as 200 a day.

"We'll stop that," said the United States Government, and with its army of occupation it sent physicians whose duty it was to control yellow fever which had been endemic in Havana for more than 200 years. Among these physicians were Major Gorgas, who was responsible for the health of the soldiers and civilians in the city of Havana, and Major Jefferson R. Kean, whose chief responsibility was the health of the American soldiers at Columbia Barracks on the outskirts of Havana in the little suburban town of Quemados de Marianao, near the famous bathing beach, La Playa.

Despite the vigorous sanitary methods which were instituted, yellow fever continued to spread, and in May and June, 1900, Major Kean, a worried man, compiled a tragic list of the names of soldiers and civilians, of fellow-officers and their wives, all living in the neighboring streets of Quemados and all victims of yellow fever. The mortality rate among the officers on the staff of Generals Wood and Lee was alarming. On the desks, the clerks in General Wood's office burned sulfur candles as a prophylactic measure, but the candles burned in vain, and in the officers' mess they drank a gruesome toast, "Here's to the ones who have gone. Here's to the next one to go!"

As if to ridicule the puny efforts of the army medical corps, yellow fever next struck at the physicians themselves, and on June 21, Major Kean became ill with yellow fever. Could no one stop this evil thing? What was its cause? One of the commonest ideas was that the mysterious cause of yellow fever arose like an evil spirit, a miasma from the tropical swamps. An Italian physician, Sanarelli, insisted it was due to a special germ which

he had discovered. But nobody really knew the cause. When a person died of yellow fever, his home was often purified by fire to destroy his presumably infected furniture, clothing and other personal belongings, called "fomites." Thus, hundreds of thousands of dollars worth of military and civilian equipment went up in smoke in an attempt to control the disease. But it was all in vain.

On June 25, the fourth day of Major Kean's illness, another army physician arrived in Havana, rushed to the bedside of his friend, the major, and exemplified in him saw his first case of yellow fever. Later that day this man, Major Walter Reed, met with three others on the veranda of the officers' quarters at Columbia Barracks Post Hospital. The three others were Drs. James Carroll, Aristides Agramonte and Jesse W. Lazear, and the four men thus ended their first day's work as the members of the United States Army Special Yellow Fever Board.

They first attempted to find Sanarelli's germ in the bodies of those sick or dead of yellow fever, but this search soon ended in failure. Perhaps after all no germ was responsible for the disease. Why in Quemados had the disease progressed so erratically down the streets, striking in one house, skipping the next few houses, striking at another, then often hopping around the corner rather than crossing the affected street? Another curious fact was noted when Reed and Agramonte went to study an epidemic which broke out among the soldiers at Pinar del Rio. A soldier in a prison cell fell sick and died of yellow fever but his cell mates, exposed to the same food and atmosphere, remained well. Could something have entered between the bars of the open window, struck one man down and gone away? Could yellow fever be caused by a winged agent? Could Dr. Carlos Finlay be right after all?

For nineteen years this kindly old Havana physician had been trying to convince his medical colleagues that yellow fever was caused by a common house mosquito. But nobody believed him simply because, although he had inoculated over 100 volunteers with mosquitoes, he hadn't produced a single case of the disease which other physicians regarded as unquestionably induced or experimental rather than probably spontaneous.

When Reed and Agramonte returned from Pinar del Rio the Board decided on August 1 to try to prove or disprove Finlay's theory once and for all. They visited Dr. Finlay who graciously gave all the help he could including a supply of mosquito larvae of the suspected species. Then a momentous and heroic decision had to be made because no animal was then known to be susceptible to yellow fever. Human volunteers were required. Unwilling to ask others to do what they themselves would not do the Board decided to inoculate each other among the first. At this juncture Reed was unfortunately ordered to Washington on important medical business. Carroll and Agramonte continued respectively their bacteriologic and pathologic studies and it fell to Lazear's lot to begin the mosquito work. This was fortunate because he of all the Board was most sympathetic to the Finlay theory. Having recently worked with malarial mosquitoes, Lazear knew their deadly potentialities. He began to breed his mosquitoes and then tried to infect them by allowing them to bite yellow fever patients at Las Animas Hospital. Between August 11 and 25 these presumably infected mosquitoes were applied to nine American soldiers including Drs. Lazear and Pinto, but nothing happened. They all remained well.

Two days later, on August 27, discouraged and doubting, Dr. Carroll permitted Dr. Lazear to inoculate him. In a few days Carroll develveloped a severe and almost fatal attack of yellow fever. On the way from Carroll's bedside Lazear inoculated a scoffing volunteer soldier who "wasn't afraid of any little old gnat." When yellow fever struck six days later this soldier became a surprised hero who later received a Congressional Medal, a life pension and a memorial bridge named for him in Grand Rapids, Mich.

Having accomplished two successful inoculations Lazear wrote his wife on September 8: "I rather think I am on the track of the real germ." How right he was was tragically proven by what happened ten days later when he himself developed the dreaded disease. Durings his illness, when he was under the care of Dr. Ames, Dr. Lazear told two visitors, Drs. Carroll and Gorgas, that a few days before, while feeding his mosquitoes on yellow fever patients at Las Animas Hospital a stray mosquito had alighted on his hand; Lazear had allowed it to take its fill of his own blood. From the first he was extremely ill and died Sept. 25, 1900, officially listed as a victim of "accidental yellow fever" but none the less a true martyr to science. Such is the official

Dean Cornwell, artist, receives congratulations from Col. C. M. Walson, on completion of the third painting in the "Pioneers of American Medicine" series depicting outstanding events and personalities in American medicine. The painting was unveiled on June 2 at the American Medical Association Convention in Cleveland by Miss Blossom Reed, Daughter of Major Reed. Much thought and planning went into the execution of this work. To insure justice in the selection of the men to be portrayed, the artist and his advisors spent long hours reading the available official and non-official records of the conquest. To insure historical accuracy within the limits of justifiable artistic license, those concerned visited several of the men who actually participated in the conquest as well as relatives of other participants. Governmental and other records were studied and old army equipment was purchased to insure accuracy in the representation of the uniforms with their confusing details of buttons, epaulets and other insignia portrayed in the painting. Conferences were held to authenticate even the size of the whitewashed stones which then lined the walks of the Columbia Barracks Post Hospital grounds.

This is the remains of the "Infected Bedding and Clothing Building" (Building Number One) used by Walter Reed and his colleagues in their studies which proved the cause of yellow fever and showed that the disease was not spread by the personal belongings of yellow fever victims. From left to right; John J. Moran, Havana, one of the first soldiers to volunteer for inoculations; Dr. P. S. Hench, the author; Adrian Macia, recent owner of the house and land; and Mr. Zunzunegui, who had been living in this little building with his family since 1906.

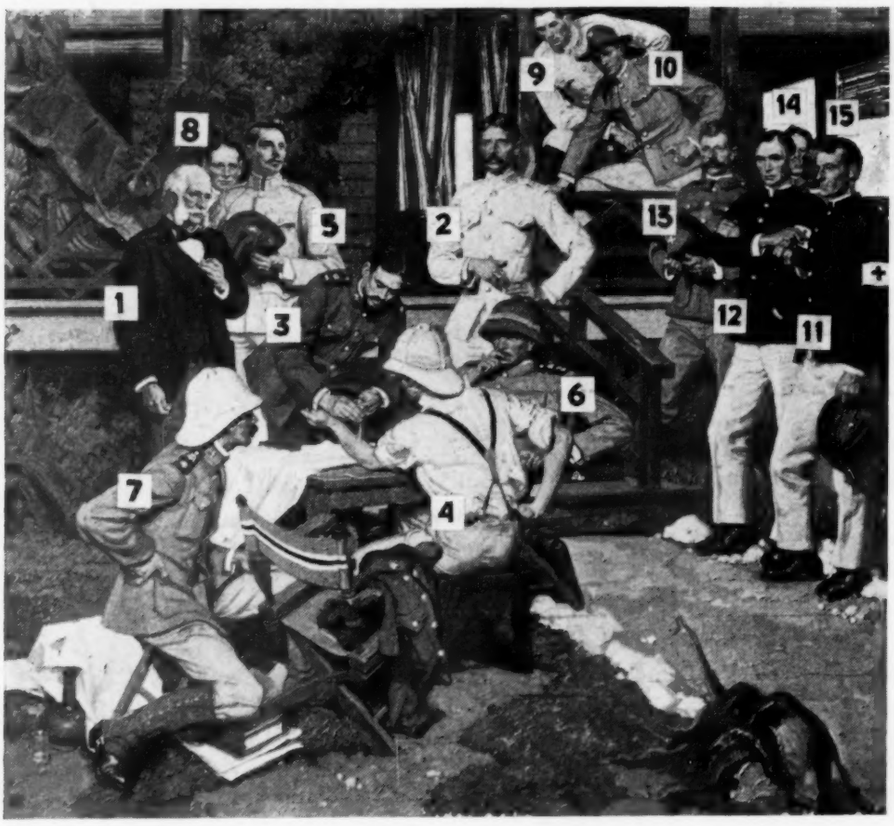
version of this tragic incident. But I am about to tell another version of the affair, one which was kept secret for forty years, and which was not even known to Dr. Lazear's widow until I was permitted to tell her of it last fall through the courtesy of those who revealed it to me: Walter Reed's colleagues, Drs. (Generals) Truby and Kean, and Dr. Agramonte's daughter.

Reed hastened back to Havana on October 4, filled with mingled emotions. He was greatly depressed at Lazear's death, yet elated that success at last seemed at hand. But he was also confused. Why did the first nine inoculations fail and the next ones succeed? The second successful case seemed incontrovertible: having been quarantined at the otherwise fever-free Post Hospital the scoffing private (Private Dean—"case XY") had had no other conceivable source of infection than via the applied infected mosquito. But could one be sure that Carroll's disease had come from the

Three of the many preliminary sketches for "Conquerors of Yellow Fever": Major Reed, Dr. Lazear and Major Kean.

experimental mosquito bite and not from some other source to which he might have exposed himself while going about town? And how could Lazear's tragic case be used to prove anything unless somebody knew what kind of a mosquito had bitten him?

In the pocket of the uniform blouse which Lazear had recently worn Lieutenant Truby, who at that time was *(Continued on page 819)*



Reproduced below is the key for "Conquerors of Yellow Fever" by Dean Cornwell: (1) Dr. Carlos Finlay, Cuban physician who originated and developed the theory of yellow fever transmission by mosquitoes. (2) Dr. (Major) Walter Reed, president of the United States Army Yellow Fever Board. (3) Dr. Jesse W. Lazear inoculating Dr. James Carroll with an infected mosquito. (4) Dr. James Carroll, who contracted the first case of experimental yellow fever as a result of this inoculation. (5) Dr. Aristides Agramonte, Cuban physician. (6) Gen. Leonard Wood, Governor-General of Cuba. (7) Major Jefferson R. Kean, Chief Surgeon of the Department of Western Cuba. (8) Lieut. Albert E. Truby, commanding officer of the Columbia Barracks Post Hospital, Cuba. (9) Dr. Roger P. Ames, who successfully cared for experimental yellow fever patients. (10) Dr. Robert P. Cooke, contract surgeon, Army Medical Corps, who volunteered to stay in Building Number 1 with infected bedding for twenty days. (11) John R. Kissinger, private, United States Army Hospital Corps. (12) John J. Moran, acting steward, Army Hospital Corps. He and Kissinger were the first volunteers to submit to mosquito inoculation. (13) Warren G. Jernegan, private, Hospital Corps, who submitted to experiments with infected clothing and later to inoculation. (14) An American, representative of eleven additional volunteers. (15) A Spanish immigrant, representative of four other men who volunteered for inoculations and experiments.

Courtesy John Wyeth & Brother

Conquerors of Yellow Fever

Third in the series "Pioneers of American Medicine"

by Dean Cornwell, N.A.

UNIV. OF MICH.

Emotional Outlets

By GRACE RUBIN-RABSON

A MONKEY VIEWING human beings without favorable prejudice might conclude that they were even funnier than monkeys. They are, as a matter of fact, funnier than anything else that lives, because they are so much more complicated.

Now take the rat; not a human rat, but an honest, hard-working laboratory rat. At the end of two mazes are two boxes, one full of food, the other empty. It is easy to train him to choose the maze which terminates in the food box, and he will, if left to himself, naturally not want to run to the empty one, since there is nothing in it for him. But the rat, like the human being, may sometimes be forced to do what he wants very much not to do, and, unlike the human being, it takes more than moral suasion to make him act.

In the same way, when life becomes too heavy a burden, when the will is too often frustrated, when personal satisfactions seem impossible to achieve, when tensions pile up too fast to be dissipated, then the human being, too, breaks down. Would that his recovery were as simple and speedy as the rat's.

Weaker personalities among human beings, as among rats, break earlier and under less stress than stronger ones. But all of us, even the strongest, need outlets for the frustrations, annoyances and tensions of day-to-day living in a frenzied world. Fortunately, human beings have found many tension releases, many kinds of steam vents, to preserve a balance. Little tensions succumb to little outlets, bigger tensions require more drastic measures. To dissipate little tensions, we draw "doodles" while telephoning, fuss with our jewelry, chew on pipestems, draw patterns on the tablecloth with our forks, pile up the breadcrumbs, light cigarets, wave our hands while talking, chew gum, suck our thumbs as children, bite our nails, and contrive a dozen other small activities which keep us outwardly poised and equilibrated.

Then there are the happy solutions for the somewhat greater, though equally unconscious, tensions that come about through social contacts. The simple amenities of "How do you do," and "How is your Mother," of "Will you have a cigaret" or "Have a drink?" give one time to appraise the situation, to orient oneself and to recover from the first tensions of the encounter, pleasant though the latter may be.

Then there are the tensions, more difficult than these to dissipate; those, for example, endured by the shy soul until a drink or several drinks relax his inhibiting self consciousness and constraint. This solution, effective as a narcotic though it may be for the moment, is only a palliative and a poor substitute for a thorough analysis of the basic lack of self confidence of which the shyness is only a symptom.

Widespread at the present time for the release of big and little tensions is the use of tobacco. Little could the American Indian know that the sacred weed that he burned to the gods and which he offered as a sign of hospitality would grow into a world-wide industry to gladden the heart of the tobacco merchant.

Why smoke? Or, at least, why smoke before the nicotine itself creates the need for more nicotine? In its early stages, smoking is nothing more than a series of small activities which provide distraction and relief until an otherwise awkward interval is resolved. The distribution, lighting, puffing, flicking of ashes, watching smoke rings, snuffing out and relighting again are all small steam vents which serve a purpose. Unfortunately, this pleasant little occupation may develop more sinister aspects as its habitual use brings in its wake

a physical craving and eventually a nicotine addiction.

What is the smoker's answer to the question, "Why smoke?" "Relaxation," is one reply. But, obviously, it is not the cigaret that furnishes the relaxation. It is the sitting still long enough to smoke. "Aids digestion," is another contribution. But only in the advertisements, not in the laboratory, where "heartburn" and other digestive symptoms are increased by large percentages by smoking. There is no question, however, that tranquillity after eating aids digestion, and a lighted cigaret or cigar in the hand may insure the tranquillity. "Keeps down weight," cry the women. Yes, hunger contractions of the stomach do actually decrease after a few puffs of smoke and one cigaret may delay contractions for as much as an hour. But what price a graceful figure malnourished on starvation and nicotine poisoning! "Stimulates bowel movements," say the constipated ones. A bit of truth here, since smoking seems to have some tendency to augment the motor activity of the colon. Again a poor substitute for the real solution.

Are there any really unpleasant effects from smoking? Do smokers care if there are? Apparently not. Do they know that nicotine, even in the relatively small quantities left after filtering, produces a change in the heart-rate? Do they know that the stimulating effect of tobacco is an illusion since it causes an ensuing depression which can be relieved only by another cigaret? That fatigue can be cured often not by smoking, but by ceasing to smoke? Implicit in the last two questions is an interesting physiologic phenomenon which is worth explaining: Smoking causes a rise in blood sugar, which furnishes temporary energy. This, in turn, depletes the glycogen stored in the muscles and represents a loss of potential muscular energy. Repeated smoking continues the depletion and leaves the smoker fatigued. Hence, not smoking is a better fatigue cure than reaching for a cigaret.

But why go on? Many persons would, in any case, continue the habitual use of something they like even knowing that it might prove harmful. For such as these it is futile to summarize the work of the late Dr. Raymond Pearl of Johns Hopkins, who, after observing the life spans of seven thousand non-smokers, moderate smokers and heavy smokers, came to the conclusion that, up to the age of 45, twice as many heavy smokers died as non-smokers and moderate smokers; from 45 until 70 the difference was not as great but was still marked; and that, if the heavy smoker lived until 70, after that it didn't make much difference any more. He was probably a pretty "tough bird" and could "take it."

Now take such a simple thing as eating. Eating relieves real tensions—the tensions of physiologic hunger as well as the tensions of social contact and even idleness. A pleasant occupation it is, too, and almost any anxiety or disappointment is easier to bear after a good dinner. As a form of diversion and during vacation periods it often gets a great deal of excessive attention. This kind of indulgence is, however, entirely different from chronic overeating, which is often only a symptom of a deep-seated psychologic problem or maladjustment. When it is such a symptom, the unhappy victim is literally drowning his sorrows in food; he is seeking escape in it from some pressing or insoluble problem, perhaps from marital unhappiness, economic pressure, uncomfortable family relationships, and feelings of personal inadequacy and insecurity. Dieting will reduce the inevitable overweight that results but it will not cure the underlying despair that drives the sufferer to food as a form of forgetfulness and escape. Once the diet is suspended, the habit will return, or will be replaced by another at least equally harmful. Nor is it easy to secure cooperation from the patient since his food is the crutch which makes his existence tolerable.

Many obese persons exhibit marked signs of neurasthenia, such as poor memory, decrease in mental power, exhaustion, melancholia and insomnia. When they are hungry they may experience such weakness, restlessness and headache as to crowd out ordinary hunger sensations. Such persons swear that a reducing diet makes them physically ill. This is a far cry from the picture of the happy-go-lucky, cheerful, laughing fat man of song and story. On the contrary, because he is emotionally unstable, his quivering mass can be as easily moved to tears as to laughter and as readily excited to rage as to warm friendliness.

However, there is help in the world for him. Under the skilful guidance of a physician trained in getting at the roots of his psychologic problem, the overeater may find no more need for his indulgence and will probably return without much trouble to a normal weight level. *(Continued on page 824)*

All of us, even the strongest, need outlets for the frustrations and tensions of day-to-day living in a frenzied world. But, fortunately, human beings have found many tension releases, many kinds of steam vents, to preserve a balance.

CLINICS

THOUSANDS OF MARRIED COUPLES—one couple in eight—want children desperately but do not have them. According to traditional medical definition they are sterile and until a few years ago it was believed that little could be done for them. Driven by superstition, people were delivered into the hands of quacks and incompetents. Patent medicine companies made millions selling worthless nostrums. As late as 1920 even those childless couples who sought the best medical advice had only one chance in ten of producing the baby they desired. Today that is no longer true and bright hope is held out to a large proportion of childless homes. American research men and pioneering physicians, cutting through the taboos, ignorance and false shame surrounding the facts of human reproduction, have found out many of the causes of infertility and how to treat them. Sterility clinics, established in many centers, are reporting success in almost half their cases.

With the simple facts of human reproduction before us let us look at the work of these men and these clinics. Each month in a normal adult woman a single ovum passes from the ovary into the fallopian tube. Conception takes place when the egg is here pierced and fertilized by a male spermatozoon which has been deposited in the uterus and moves by self-locomotion into the fallopian tube. The fertilized egg then slips out of the tube into the uterus where the new life develops.

Anything that impedes or prevents completion of this cycle is a potential cause of sterility. Over 30 such causes have already been classified. Failure to recognize the number of factors involved accounts for many of the failures in the past. The old procedure was for a doctor to find one abnormality and assign it full responsibility. The treatment, if any, was usually surgical. If pregnancy failed to follow, the case was closed. There was another childless couple; and possibly a broken home.

Today the family physician gladly points out that infertility is a human ailment, no more shameful than an inflamed appendix or a broken leg, or he may direct patients to clinics staffed by experts. In these new clinics

for the CHILDLESS

By J. D. RATCLIFF

doctors, chemists, gland specialists and technicians all bring their skill to bear on the problem.

The stories of the dozen or so people who each week visit the Sterility Clinic of the New York Lying-In Hospital—a unit of the New York Hospital-Cornell Medical Center and one of the largest and best equipped in the country—are strikingly similar. Several years of married life have elapsed without producing a wanted child. Often as not a domestic maladjustment is developing; and the wife is beginning to suffer from a neurosis caused by what she believes is her failure.

The interviewing doctor explains that sterility is a partnership problem. The husband must also be examined. Many women object to this. Their husbands, they insist, are quite normal. But finally the doctor convinces her that this is something to be judged only by the trained physician.

Since biblical times it had been customary to place blame for sterile marriages on the woman. Not until 1916 did Dr. William H. Cary, pioneering New York physician, collect

evidence to blast this notion. His research indicated that the male is responsible in one third of the childless marriages. Since Cary's original work dozens of other surveys have sustained his thesis. In one series of cases husbands were investigated after their wives had undergone dangerous surgery. Forty-five per cent of these men were deficient in one or more ways. In another group of 100 childless cases, 78 were found to be due to conditions in both partners and in eight cases the husband was solely responsible.

On their first visit to the clinic men often show signs of outraged dignity, but become more cooperative once they understand the problems involved.

The experts can quickly determine whether some condition exists—an atrophied gland, perhaps—which makes it completely impossible for the couple to have children. Even this knowledge, distressing as it is, dispels uncertainty and many couples thereafter find happiness in adopting children. Such cases are in the minority. More often, physicians discover several conditions capable of preventing conception—and most of them curable.

The first step in considering the husband's case is to examine the male cells he produces. Individual cells are counted under the microscope in the same manner in which blood counts are made. If the total cell count is under 60,000,000 it isn't likely that reproduction is possible. For normally a single deposit contains five or six times that many. To bring the cell count up, the attending physician will prescribe rest and recreation. This practice has historic precedent. Long before scientific evidence of male responsibility was available, doctors made shrewd guesses. They sent husbands on clipper-ship voyages. Possibly the physician will supplement this by a series of injections of pituitary substance—derived from the master gland which governs reproduction. Under such care responses are frequently dramatic. In the course of a few months sperm counts may climb from six or eight million to 300 million!

Since the male cell must travel by self-locomotion from the uterus where it is deposited to the fallopian tube where it meets the egg, an estimate is next made of the speed of travel—motility—of the cells. No hard and fast rule governs here; but an average cell can travel about an inch in three hours and the trained eye can tell at a glance whether the cells under examination have normal speed.

Especial attention is paid to the quality of the cells. A parallel can be drawn between the type of cells in any specimen and the kinds of people populating a city. Each has its quota of the young and immature; the vigorous and healthy; the old and crippled. In a male specimen too many abnormal forms, or too many immature forms indicate impaired fertility.

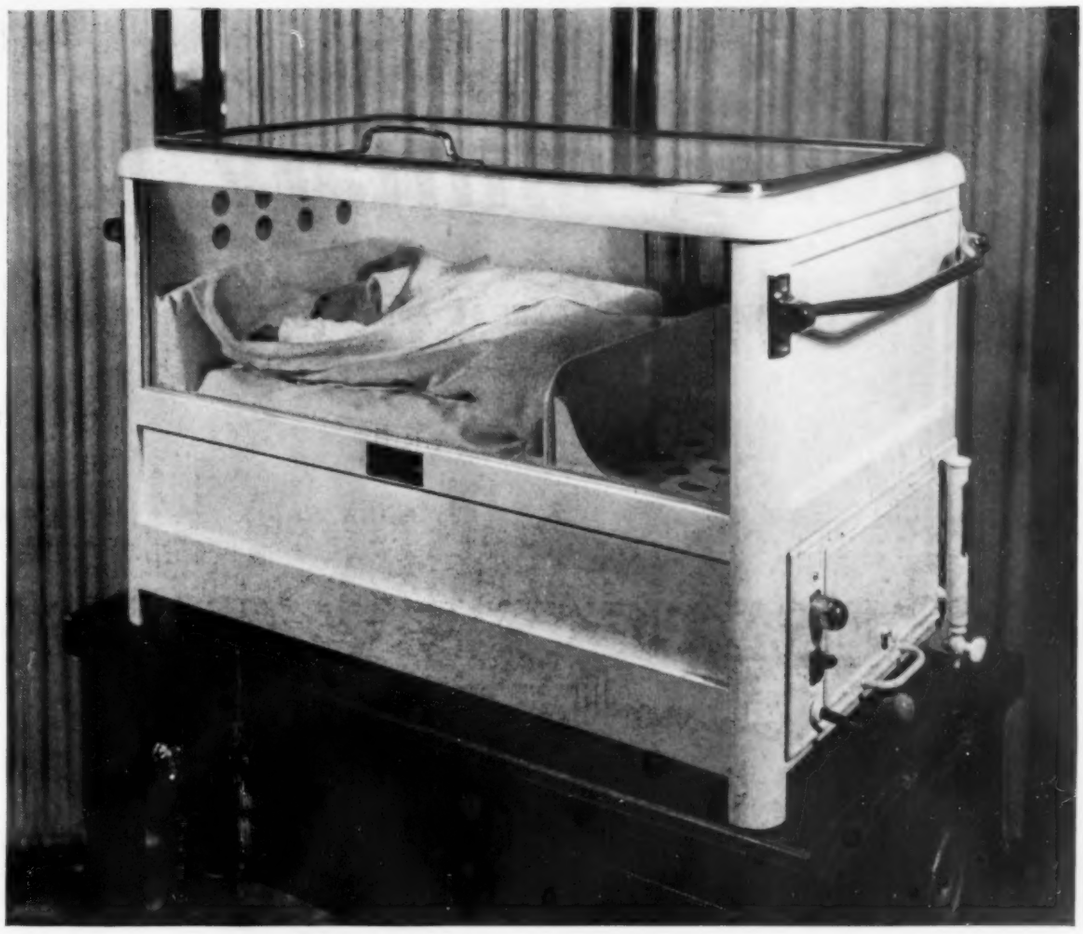
Occasionally no male cells whatsoever are found. When these rare cases appear the doctor can make a good guess as to cause: the sperm duct is blocked. He has ingenious methods of checking this guess. Under local anesthesia, he removes a minute fleck of tissue from the male testicle. If this bit of tissue contains live sperm, it is evident that the duct leading out from this gland is blocked, and his diagnosis is confirmed. The next step is a delicate operation perfected only ten years ago. The duct is short-circuited around the block and the ends are stitched together with silver thread.

While the examination and treatment of the husband is going on, a similar highly specialized team has been attending the wife. The chief cause of sterility in the female is blockage of the hairsized fallopian tubes running from ovary to uterus. An ingenious test devised by Dr. I. C. Rubin, of New York, has enormously simplified diagnosis here. The physician introduces carbon dioxide under pressure into the tubes. If the pressure gauge falls suddenly this is evidence that the gas is escaping into the abdominal cavity—and that the tubes are open. If pressure remains constant the tubes are closed.

Fluids opaque to x-rays may also be injected, and x-ray pictures taken. A shadow on the plate indicates the point of blockage. Irrigations, heat—and in an occasional rare case, surgery—are employed to open blocked ducts.

Another frequent cause of female sterility is mucus which accumulates at the neck of the uterus and blocks entrance of male cells. Gentle manipulation, or even the introduction of a glass rod, will serve to enlarge this orifice and cause the mucus to drain away naturally.

Perhaps the physician doubts that normal ovulation is taking place. Since it is impossible to recover the minute ovum, barely visible to the naked eye, the doctor must depend on inferential tests. He knows that the architecture of cells in the vagina changes during ovulation, and that body temperature drops. He knows that there is *(Continued on page 854)*



PORTABLE INCUBATORS

A NEW LOW-COST portable baby incubator has recently been developed in Michigan that promises to play a big part in reducing rural America's infant mortality rate. This "pygmy" incubator is small enough to be transported quickly in any emergency to isolated rural districts.

Hardly larger than a clothes basket, this new equipment fits easily on an automobile seat. It plugs into an ordinary electric light outlet and can be set up on a kitchen table.

To provide heat, a standard 75 watt electric light bulb is used. The bulb and the power wires are so perfectly insulated that oxygen can be added to the box with absolute safety. Temperature is thermostatically controlled. Humidity regulation was first achieved by immersing a 50 watt bulb in a pan of water.

In reducing the size of the incubator, there could be no compromise on the life-saving characteristics of the larger units. Consisting of a metal cabinet 27 inches long and 16 inches wide, this portable outfit has a glass top and front side. Inside is a perforated mattress support. The heating and humidity mechanism is contained in the lower section. Moreover, the unit is simple and foolproof, so that people in remote areas can operate it with a minimum amount of difficulty and a maximum amount of success.

Additional incubators are being distributed in Michigan as rapidly as they can be built. As soon as arrangements can be made, the units will be manufactured and marketed on a larger scale. The price will be held as closely as possible to cost—approximately $100.

Building Military Morale

By BRIGADIER GENERAL JAMES A. ULIO, U. S. A.

The weekend recreational areas are tent camps established near metropolitan centers to provide soldiers with a place to spend a weekend enjoying the pleasures available in an average community.

An aerial photograph showing a weekend recreational area near Washington, D. C. No duty call, no reveille, no formations are found in these areas from noon on Friday until Sunday evening.

MECHANIZED WARFARE with its much publicized blitzkrieg methods has accomplished astonishing results on the battlefield, but behind all this mechanization stands the factor which since the start of the world has been the fundamental one in the winning or losing of any war—the man—the soldier. Tanks do not run themselves. There must be drivers inside with trained crews. Planes must have skilled pilots, accurate gunners and efficient radio operators.

With the increase in the tempo of warfare has come an increasing responsibility on the soldier. The screaming of Stuka dive bombers is said to have caused more confusion among poorly trained troops in recent European battles than the exploding bombs themselves. Jangled nerves are not new in our fast living world, but in no place are they more fatal than in the army, where weapons must be intelligently used under great stress, and split-second action taken by individual soldiers or units.

Morale is to the mind what condition is to the body. Good morale is closely tied in with good physical condition; one assists the other. To win in modern combat the soldier must

Good morale is closely associated with good physical condition; one assists the other. To win in modern fighting, the soldier must be healthy both in mind and in body.

United States Signal Corps, U. S. Army

A Dayroom provides recreational facilities.

Breakfast at one of the recreational areas.

An impromptu music session during free time.

Weekly dances are popular with the soldiers.

Swimming is available at most army centers.

have both; he must be healthy in mind as well as healthy in body.

Napoleon observed many years ago "the moral is to the physical as three is to one," and he was only repeating what military leaders have always known, that the successful soldier must have more than training in how to use a gun—he must have a will to win.

This spirit has been defined in a number of ways, but one definition is: "A state of mind with reference to confidence, courage, zeal and the like—especially of a number of persons associated in some enterprise, as troops."

Realizing the increasing importance of this state of mind, the War Department in March of this year created a Morale Branch to operate directly under the Chief of Staff on an equal footing with the Chiefs of Arms and Services.

These soldiers from Camp Livingston are preparing to try their sea legs at Gulfport, Miss.

This Branch not only advises the Chief of Staff on the morale of the army, but it also actually provides the necessary welfare and recreational facilities at army camps and posts.

During 1917-1918 various civilian agencies interested in welfare and recreation exercised their functions directly within army camps. Under the present program the War Department assumes full responsibility for morale activity of the army and this responsibility knows no limits. Other federal agencies and civilian committees assist in soldier welfare and recreation outside military boundaries. This does not mean that civilian organizations are no longer interested in what goes on in army camps; it merely means that the method by which civilian organizations exercise their functions has been changed.

A combination of the large civilian organizations interested in welfare and recreation work among military men has been formed under the name of the United Service Organizations. The USO will occupy quarters in communities adjacent to large camps and furnished by the federal government. Operational expenses will be raised by popular subscription.

For over a year a civilian committee called the Joint Army and Navy Committee on Welfare and Recreation has existed in Washington. The function of this committee is to coordinate welfare activities between the War Department and other government departments and welfare agencies, and to develop closer relationship between civilian communities and military garrisons in *(Continued on page 838)*

By GRACE IGO HALL

Enlisted Specialists

THIS IS A SCHOOL of first rank, an army medical technician school. Its equipment, the dental section with its pertinent chairs, plaster benches, vulcanizing and polishing equipment; the surgical section with its first-aid paraphernalia, crisp white bandages, splints and appliances; the pharmaceutical section with its many ingredients, drugs and compounds for the filling of prescriptions; the medical section with its model wards for the teaching of care of the sick and disabled; the spic-and-span laboratory section with its laboratory for teaching chemistry, bacteriology and clinical pathology; the outstandingly fine x-ray section, with its huge x-ray machines, where under the instruction of expert x-ray technicians students become thoroughly familiar with the mechanics of this intricate machine—in this school, all had been designed to train army students on whom in the future would fall the responsibility for medical direction governing the health and lives of other army personnel.

Here, under Colonel Frederick S. Wright, Medical Corps, United States Army, commanding officer of the School for Medical Department Technicians and of Fitzsimons General Hospital, enlisted men will learn an unbelievably extensive amount of medical knowledge in a brief span of time, for this is Denver's National Army Medical Defense School—one of the three largest, finest and busiest in the country. The school is made up of men sent from army posts all over the nation: about one-third being enlisted men from the regular army, about one-third selectees and the remainder from the National Guard organizations in training. This school is scheduled to graduate over 4,000 men annually: 3,600 enlisted men and 600 officers. The courses in some divisions run for three months; in others, two; while the officer refresher courses are for one month.

A pharmacy section student filters an iodine solution.

This army medical technician school was built early in 1941 by the War Department at a cost of approximately one-half million dollars. Situated just outside Denver's East city limit, it has been operating since the first of April. Twenty-five temporary buildings—all of them large, white, two-story structures, laced together with wide streets and sidewalks of gravel—are scattered over the area, a small community in itself.

Lieutenant-Colonel William W. McCaw, assistant commandant, regarded as one of the army's most brilliant x-ray specialists, detailed Captain William V. Wherrett, the school adjutant, to show me around this school for army medical technicians. Captain Wherrett first took me to the dental section. Nearby, as we entered a room, seated on a high stool at a work bench, was a tall, black-haired chap, good-nature written all over his beaming face.

With much pride he was examining a large tooth he had just finished carving out of soap.

"How's the tooth coming?" the instructor inquired, as he leaned over the industrious student.

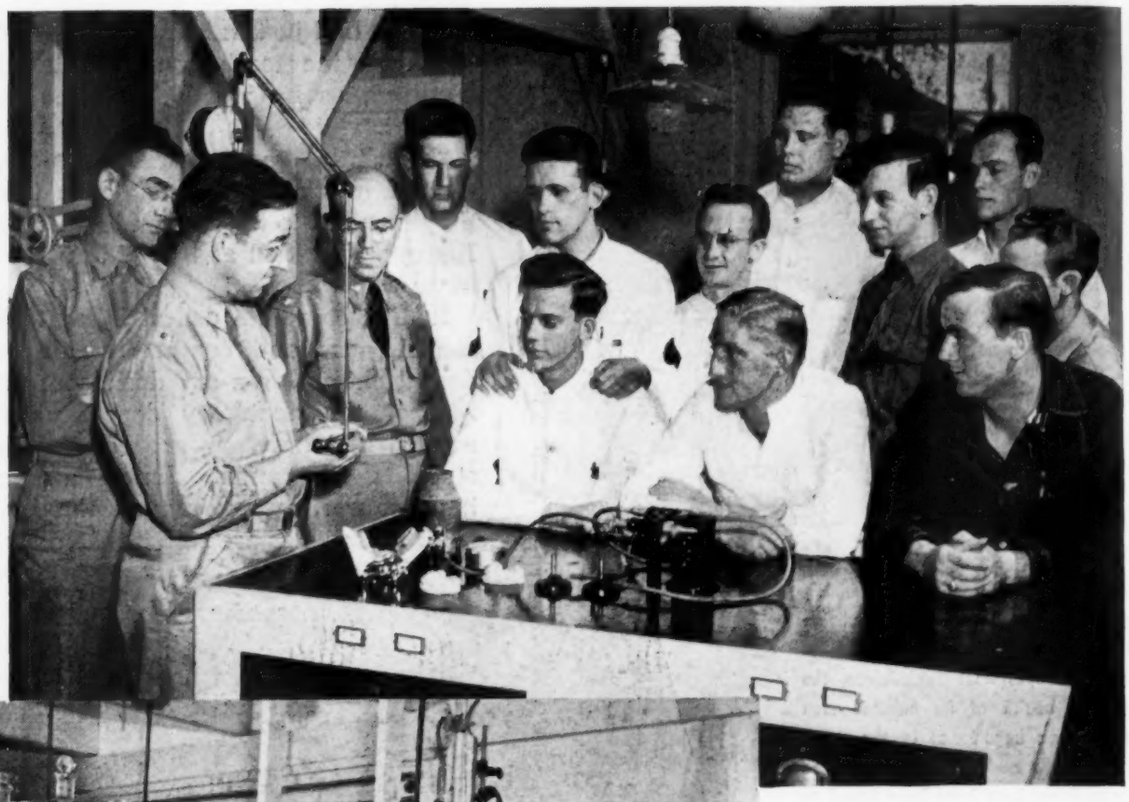
"Fine," the man answered, "Sa-a-y, a fellow doesn't mind working on these things when they turn out to look like a tooth should look." His eyes sparkled as he held up the work for us to see.

In this complete dental laboratory with its electric, gas and compressed-air outlets, its dental chairs, its x-ray darkroom and all the rest of the necessary dental paraphernalia needed in laboratory procedure of this kind, students are taught, during a five-hundred hour course, approximately the same dental fundamentals as are students in a civilian den-

In addition to specialized training in the various branches of medicine given at the Denver Army School for Medical Department Technicians, the physical health of its enlisted men is of prime importance to the army. Troop drills and formations such as those shown here have been found to be successful in developing stamina.

Photographs by Floyd McCall

Each evening the student body passes in review before the officers of the school.



An instructor explains, with the aid of a partial denture, some of the various uses of dental drills.

Laboratory section students watch an agglutination test of blood to determine the presence of typhoid.

Students in the x-ray department learn to take x-ray pictures as an instructor supervises the work.

An officer, with a student as patient, shows the proper care for broken legs.

tal school. In time they will be able to do the mechanical work for the army dental surgeon, similar to work done by dental assistants in laboratories in civilian life.

The students begin this course by cutting teeth from white soap, followed by making plaster models, then going on through the various stages until they have learned to make partial and complete plates, bridges and inlays. They work from rubber molds. In time these young men also learn to make splints for fractured jaws. The material used here is similar to that used in making gear-shift knobs for automobile steering wheels.

"But what type of textbooks do you use?" I asked the instructor. "I should think it would be difficult to find one with all the necessary information.

"You're right," he answered, "it would be. The army officers here at the school write all of the textbooks used. The necessary material is taken from longer and more detailed medical textbooks and condensed so that it is directly applicable to use in our classrooms."

And who would know better than these medical instructors what necessary facts should be selected and taught?

We entered the x-ray section of the school, which contains workshops, darkroom facilities, modern x-ray equipment and classrooms where practical instruction is given in the manipulation of standard x-ray machines. Across the

room from us a man was lying on a table, directly under a large x-ray machine, surrounded by fellow students.

"Those students are observing the taking of x-ray pictures of another student," Captain Wherrett explained. Instructors in all the sections here believe that one of the easiest ways to acquire practical knowledge of any subject is by actually seeing the application of the instructor's teaching. Whenever it is possible the students gather around to watch one of their members as he demonstrates what he has learned.

In this room hundreds of men yearly will receive priceless training in taking x-ray pictures from some of the finest x-ray technicians in the world. Using each other as study subjects, they learn to make a whole x-ray skeleton survey: ankles, knees, hips, pelvic areas, skull, shoulders and elbows—all are included.

"Of course, the students don't start in to make x-ray pictures at the beginning of the course," he said in response to my question. "There are many things to learn before they reach this particular point."

The men start out to learn the mechanical operations of an x-ray machine from the principle of the operation of a doorbell, which they must first construct. Second, they make a small motor and finally they make, one by one, all the component parts of an x-ray machine, with the exception of the tube. Each student, to pass his final examination, must build a complete, functioning x-ray machine before the end of his course. Think of it! With this unexcelled training, a student will learn the mechanics of this intricate machine so thoroughly that if the machine he happened to be using should break at some crucial time—in a field hospital for example, or some other place where it would be impossible for him to get to a repair shop—he would be able to repair the machine himself.

Besides learning anatomy from the point of view of an x-ray technician, followed by six weeks of practice in taking x-ray pictures, the students are taught to make their own developer solutions, and to develop the x-ray pictures they take.

When Captain Wherrett and I entered the pharmacy section which contains four large work tables, each equipped with gas outlets, hot and cold water and cupboard space for student equipment, I observed how absorbed the students seemed in their laboratory work. The men working fourteen to a table, seven on each side, are not, in this section, taught to become registered pharmacists. No, indeed! But they are being taught practical pharmacy so that in time they can help fill prescriptions in army dispensaries where today the need is so great. The instructors, all registered pharmacists, were teaching the class to take the crude drug through the various stages leading to the finished product. The students are told all about a preparation, how to make it and then how to use it in a prescription.

At one table Private Charles Lafferty, sent here from Selfridge Field, Detroit, Mich., prepared a boric acid ointment. Deftly, he mixed the small, measured amounts of boric acid, wool fat, white wax and white petrolatum.

"And that's all there is to it," he explained as I watched him finish the yellow-colored salve and place it next to some black iodine ointment and cream-colored ointment of ammoniated mercury which he had previously prepared. In addition to making various stock solutions each student is required, before completing the course, to compound over one hundred individual prescriptions.

"That man over there," the instructor remarked, "from one of the army posts in Arkansas, is a good example of what this school is doing for some of our students. He ran a gambling house before he joined the army. Then he was sent here and assigned to this department. It wasn't long before he could read all the prescriptions. Believe it or not, that man's average grade is 95, and he says he likes the work so well that he's through with gambling houses forever."

I couldn't help but think what wonderful things are being learned by these students in this fine medical school.

Next, we visited the laboratory section with its preparation room, its lecture room and its complete laboratory for the teaching of chemistry, clinical pathology and bacteriology. All around the room the tables were covered with chemical mortar bowls, glassware, vials and variously sized bottles containing bright colored liquids.

My attention suddenly was drawn to a group of students gathered around a boy who was conducting a laboratory test.

"That young man," said Captain Wherrett, "is conducting a blood agglutination test to determine the presence of typhoid."

The training given in this laboratory is similar to that given in the *(Continued on page 844)*

Prehabilitation of Registrants: III

DENTAL REQUIREMENTS and ADVICE

SELECTIVE SERVICE with the aid of its Dental Advisory Committee offers here advice whereby registrants themselves may insure their own dental fitness.

The Prehabilitation Plan of Selective Service aims to permit registrants to fit themselves for military examination and service by making them familiar with the standards required and through advice as to what service may be necessary to remedy their remediable defects. The prehabilitation plan includes the problem of dentistry as well as of medicine. This plan is applicable to dentistry as to medicine, since the same principles are concerned; in fact, it might be more widely applicable because the teeth are such frequent offenders. More registrants are rejected for poor or insufficient teeth than for any other one reason. In fact, one out of every five rejected fail because of dental defects.

DENTAL STANDARDS

While it is hoped that registrants will have normal or near normal teeth and gums, the Selective Service System has established minimum dental requirements in keeping with those of the army, for the guidance of the local and advisory board examiners in the selection or rejection of men.

No one will be accepted for service who has less than three front teeth of the cutting variety above and three front teeth below. The edge of the lower teeth must meet the edges of the upper teeth or set slightly in back of them. Furthermore, no one will be accepted who does not have three upper and three lower back teeth (of the chewing variety) which oppose each other when the jaws are in normal movement. This means, then, that the registrant to be considered for government military service must have at least twelve teeth of the kind specified.

These twelve, or more, teeth must be sound. If they have good fillings or crowns and are free from infection, they will be considered satisfactory. The teeth must be clean and tight in the gums, and the gums must have a normal healthy appearance.

The government supposes that each young man having too few teeth has already had or will have a dentist construct plates or bridges to set on the gums where the crucial teeth are missing. Plates should have clasps (rings) which fit over some of the twelve teeth so that the chewing load will be taken up by both the gums and teeth and yield a satisfactory dental function.

DECAYED TEETH—CARE OF CAVITIES

If any teeth have cavities or dark spots, the registrant should by all means see a dentist so that proper treatment may be completed. The modern dentist is a considerate person, who will do everything in his power to protect you from pain. Dental care of today does not involve the same degree of discomfort as the old-fashioned care of yesterday.

When the registrant has teeth in excess of the minimum requirements, they should be prized most highly, kept clean always and in good order. They should be accorded the same care as would be given any other cherished possession of great value.

USEFUL TEETH

Fine, clean, well cared for teeth are among the first things noticed about a person. Teeth add materially to personal appearance, as well as serving for eating purposes. Even artificial teeth, when set in the proper spaces and when well matched in color, add much of value to one's appearance and also to health. One of the most important things a registrant can do for himself is to see that his teeth are properly cared for. All vacancies resulting from extraction should be filled with good dental pontic bridgework or partial plates with clasps.

During examination the registrant should demonstrate to the examiner that he can move his jaws sideways and forward so that certain upper and lower teeth will meet and can thus be used for the purposes of cutting and grinding food. This is important to the registrant in many instances, particularly when the teeth are few in number.

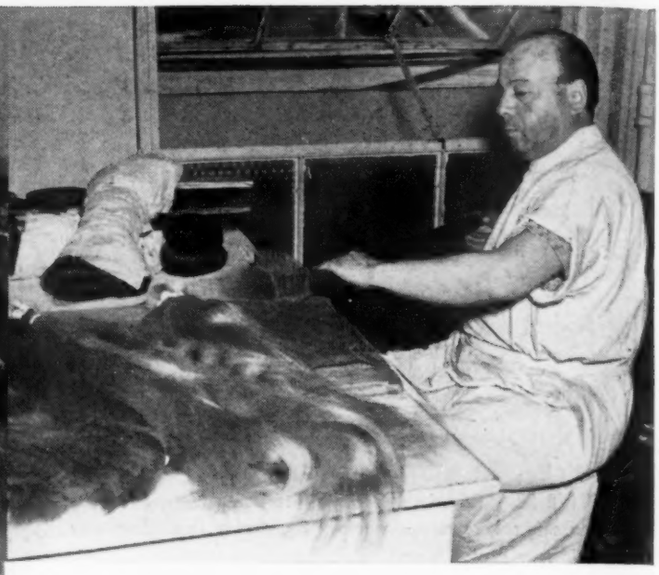
HEALTHY TEETH

The registrant should see that the teeth are put in first class condition by a dentist who can make sure that the gums are healthy and that any infection that was present has received proper and adequate treatment.

The first rule for keeping the gums healthy is a thorough brushing with a small, strong toothbrush. Dirty teeth eventually lead to cavities and infected gums. Teeth and gums should be brushed after each meal, also before retiring. Probably the greatest cause for decay of teeth is the remnant of food particles left on the teeth. If the food is allowed to decay, the teeth will decay under the food and the gums may become infected; so, to keep well and normally healthy, pay strict attention to cleanliness of your teeth.

FREAK TEETH

Teeth which have not come through the gums are said to be impacted or unerupted. Additional teeth are called supernumerary. Such teeth often cause jaw pains, neuralgia, eye trouble, severe unexplainable headaches and other body ailments. In some instances the dentist can bring *(Continued on page 857)*

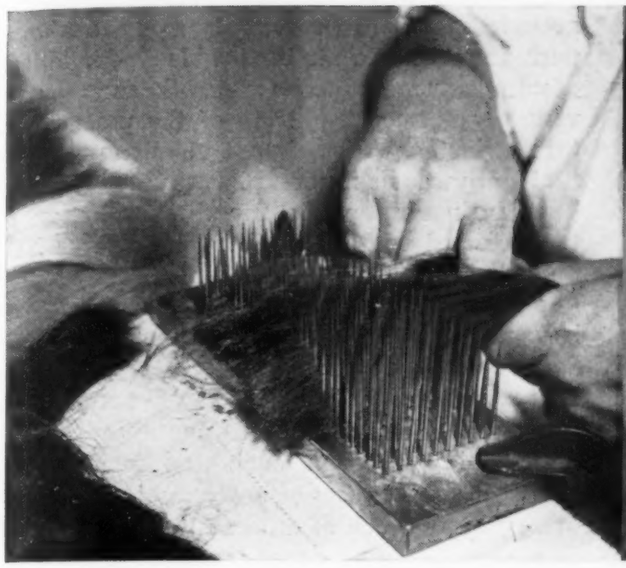


BEFORE: Illustrating a typical case of premature baldness.

"SURE CURE"

UNTIL THE DAY when dermatologists discover the cause and cure for "common" baldness, men who are bald will continue to have but two alternatives—to remain bald, or wear a toupee. For despite the vast sums of money spent each year on "hair growing" treatments, tonics and "cures," science has yet to learn the true cause of baldness except in cases which can be traced directly to certain diseases. That is why dermatologists scoff at all the so-called "guaranteed" methods which claim to grow hair again on a "naturally" bald head. Whenever a supposedly successful case is reported, the hair has grown in again not because of the method or treatments, but because the disease which caused the baldness has been cured.

No one is better aware of this fact than the hopelessly bald man himself. Before even thinking of a toupee, it is a safe wager that he has, at some time or another, tried everything to be had in the way of tonics and treatments for which hair growing claims are made. Once he realizes the futility of his efforts, based on his own unsuccessful attempts to grow hair—then, and only then, has he reached the stage of toupee consideration.



LEFT: Only human hair of the finest quality is used in making modern hairpieces. It is grown especially for this purpose. LEFT CENTER: The first step is blending and matching the "raw" hair into various colors and lengths to simulate naturalness. RIGHT CENTER: Blending creates a lifelike effect, since the natural head of hair is always a mixture of various shades. ABOVE: The secret of realism lies in the foundation, called hairlace, a colorless mesh of tightly woven strands of hair.

for BALDNESS

By WILLIAM HARDWICK

As a practical solution to the age-old problem of baldness, toupees are being given more serious attention by bald men today than at any time during the last century and a half. The reason is not because of any sudden mass awakening on their part to the quackery of baldness remedies, but simply that the modern toupee has finally reached a state of near-perfection in its imperceptibility. It is as different from the easily recognized, old-fashioned variety as the horseless carriage is from the modern, streamlined motor car.

For centuries the creation of a hairline which appears natural and realistic has been the biggest bugaboo in the making of wigs and toupees. The common objection to the old-fashioned type of toupee, especially, was caused by the severe, down-over-the-forehead straight-line hairline which, because of its obvious artificiality, subjected the wearer to much ridicule and embarrassment. But the wig makers have finally overcome this problem in the remarkably realistic hairline craftsmanship of their 1941 models.

Their secret lies in a special foundation feature known as hairlace, which can best be described by comparing it with the finest,

AFTER: Unretouched picture of same man with new hairpiece.

most delicate hand-made lace, since it is made in much the same manner from tightly woven strands of human hair. Into this special hairlace foundation each individual strand of hair for the toupee is ingeniously tied, one by one, with the result that the finished hairpiece looks as if it were the wearer's own hair.

This effect of realism is something which wig makers have been trying to achieve ever since the Sixteenth, Seventeenth and Eighteenth Centuries when the custom of wearing wigs, more for the sake of fashion than necessity, originated in the royal courts of Europe and spread to countries all over the world. But it remained for necessity to mother the "invention" of the hairlace feature which makes it practically impossible to trace any semblance of artificiality in a modern hairpiece.

Necessity, in this case, can be attributed directly to Hollywood's motion pictures and the exacting demands for realism on the screen. Toupees and wigs, like greasepaint, are an actor's stock in trade. So it was only natural that improvements in the art of toupee and wig craftsmanship would have to be forthcoming in order to keep pace with the ever-increasing technical advancements of the motion picture art. A $2,000,000 costume picture, for instance, could hardly be expected to meet with favorable audience reaction today if its actors were forced to portray their roles wearing obviously artificial toupees and wigs. But even more important is the fact that Hollywood has too great an investment in too many top-notch male stars, who wear toupees, to take any chances on their popularity at the box office being affected by a waning interest on the part of their feminine fans who might become disappointed or disillusioned if it were unmistakably apparent that these romantic heroes are bald. Hence the need for nondetectable toupees in the movies.

Only a comparatively few years ago film players had to be cast in roles just because they happened to look the part, regardless of acting ability. But now young actors can portray old-age characterizations authentically and convincingly by the mere acquisition of proper make-up and hairpiece. It is also generally conceded that these new type toupees have aided immeasurably in indefinitely prolonging the box office value of the number of prominent male stars, portraying youthful and romantic roles on the screen, who must necessarily wear them because of thinning or complete lack of hair.

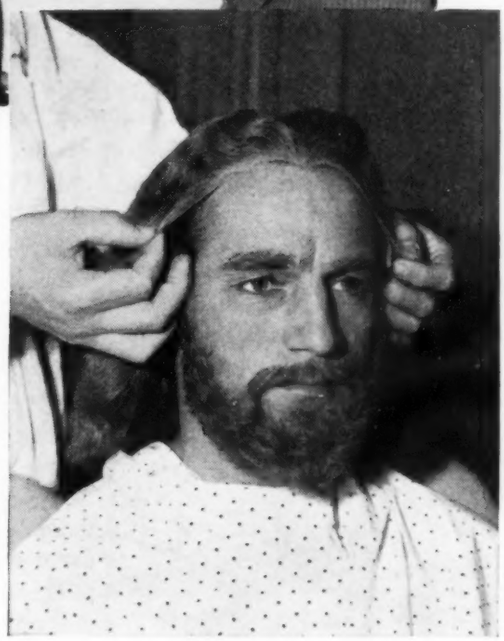
Whether these toupees become generally accepted by bald persons as a practical and permanent solution to the problem of baldness, of course, remains to be seen. So far they are virtually unknown outside of the motion picture industry. Yet it is not at all improbable that Hollywood's motion pictures inadvertently have been responsible for the perfection of toupees and wigs that can give sensitive bald men—and women, too—a new lease on life. Leading psychologists, and even doctors, who have seen and examined these hairpieces, believe that they can prove useful in helping to overcome serious complexes of overly self-conscious baldsters. The day is coming, in their opinion, when such toupees will be regarded just as importantly, and considered to be just as much of a necessity as false teeth or glass eyes. You accept these aids for what they are, and the purpose for which they are intended, they argue—and that's the way it should be with toupees which give the appearance of naturally grown hair.

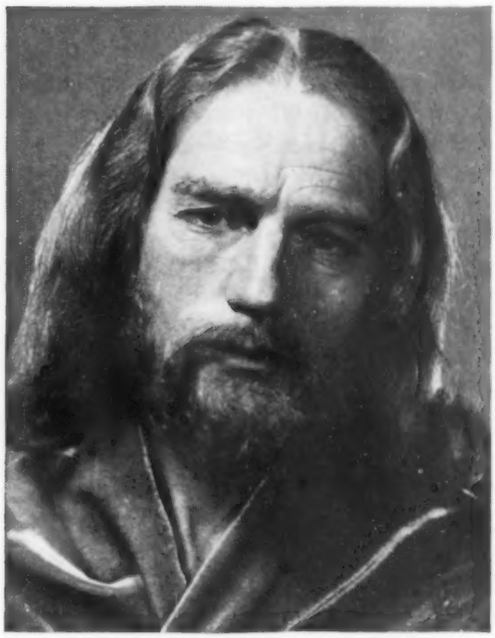
For some unaccountable reason, however, most people with healthy heads of hair look on a bald man much like people of normal physique look upon the skeleton-thin person or the gargantuan-fat type. All three are not uncommon sights, though somehow they seem to incite a peculiar brand of humor. To offset these jokes, and direct attention away from themselves as quickly as possible, these victims of the personality ribster are invariably the first to join in the resulting laughter. But secretly, deep down in their own hearts, they are sensitive. And the bald man is probably the most sensitive of the lot. It is this natural human frailty—self-consciousness and the humiliation of hurt pride, rather than any shallow, vain affectation—which usually accounts for a bald man placing his problem in the hands of a wig maker.

But even before he can bring himself to this final decision, there is still another, more important question—the question of how much humiliation he will be subjected to by wearing the toupee. This, of course, can only be determined by trial. And that is where the Hollywood-developed toupee makes its bid for fame. Screen stars and men in other walks of life who wear these toupees in their everyday business and social appearances will tell you that they cause them no embarrassment.

Their explanation is that the hairpiece gives a bald man the feeling of having hair again, once he has the cour- *(Continued on page 830)*

Nelson Leigh, character actor, confers with Max Factor Jr. about his makeup characterization for the role of Christ in Hollywood's Pilgrimage Play. Below, left, he tries the wig he will use in the characterization. Directly below he is shown as he appears in his role. Note the perfection of the wig and beard and naturalness of hairline.





Patricia Morison, Paramount star, has naturally dark brown hair as seen at the left. By using a blond wig she changes her type instantaneously.

Living with

CONTENTION CONTINUES whether senescence—old age—is a wearing out process, or a disease. Many scientists now believe it is the latter. Boas states ". . . arteriosclerosis is not primarily a process of senescence. The so-called degenerative disorders of middle or advanced life must be regarded not as manifestations of an inevitable wearing out of the body mechanism, but as a diseased state. They remain a challenge to scientific investigation and a problem of constructive therapy." He concedes that "the aged have not as competent a circulatory system as in their youth. But the aged make less demand on their hearts, they eat less, they avoid extremes of cold and heat, their physical activity is greatly lessened, they are aware that their hearts have become weaker, they have little need for the great cardiac reserves that they had in their youth."

Willius, a well-known authority on heart disease, says that "the cardiac pump usually functions without faltering into advanced old age. Clinicians have often remarked that the hearts of the aged have exceptional strength in spite of the presence of heart disease." The heart, indeed, is a reliable organ.

A book could be written about the neglect of the symptoms, the aches and the pains of the aged. If the baby has colic, the young mother will fly for the doctor, but if her mother has the stomach ache, she will pile on the panaceas and shrug it off: "Mother's old, you know."

She knows she has angina, she knows what to do for it—so she knows how to snap her fingers at angina.

In many instances when great age gradually comes on us, we do need care, more than the active cardiacs we are citing. A doctor of 70 has suggested that the world would be a happier place for old people, and perhaps for the young, if children would remember the first five years of their own lives, how the parents cared for them. Let them do likewise, change places, be parents of their parents for the last five years or so. But moderation here, too, is necessary lest the parent be put to bed too early and too often!

All the symptoms of the chronic invalid, cardiac or otherwise, are not neurotic. A washer in a laundry from the British West Indies had a heart condition for many years. He said he was not quite satisfied with his "private doctor," so he went to a

Heart Disease: II

By LOUIS F. BISHOP Jr. and RUTH V. BENNETT

large hospital clinic. He was examined with the technical equipment, but he received no medicine, no crutch, no tangible help for his heart and him, so, as he says, "the heart was not satisfied." Such a story is typical of many an older invalid. Pushed off, pooh-poohed—"and the heart is not satisfied."

When the subject of longevity in heart disease is broached, life insurance men raise a quizzical eyebrow, but cases in a private practice prove the exception. We can cite many cases of people known to have heart disease at say 50 who live more than their three score years and ten. Even the insurance statisticians often ruefully contemplate their numerous policyholders with heart disease who live on for years supported by a disability allowance.

Take the report of the New York Life Insurance Company in 1939: There were 16,966 policyholders who died in 1939. Of this number 5,817 or 34 per cent died of heart disease. Interested to find how many of the 5,817 deaths from heart disease fell among those over 70, a query was sent to the company. These are the facts: Total over age 70, 1,513. These ages are broken down as follows: (26 per cent of the deaths from heart disease were over 70.)

747 lived to be 70-75
454 lived to be 75-80
244 lived to be 80-85
68 lived to be 85 and over

Of course life insurance companies have to deal in averages and it makes a gloomy marshaling of statistics for those who live on with heart disease. Personnel managers also cannot take a chance on anything but averages. But the person concerned with heart disease has to be an exception. He has to take the chance of going on with his life, whether he is turned down because of the physical examination of the personnel manager or the life insurance company.

Granted that some forms of heart disease do indeed promise more years of life than other types, let us examine the record of coronary artery disease. Most people think (including the person who has it) that if the corona (the crown) or the coronary arteries are affected the span of life will be curtailed for a surety. In all truth the person with a suspected coronary ailment is the pet peeve of insurance companies, for to them such a cardiac case is too "risky" for a risk. And they feel this point of view well verified in coronary thrombosis. Ten to fifteen years of life, nevertheless, are often given to a person afflicted with coronary disease, almost as much as would be his natural expectation of life, if, for example, he is attacked by coronary thrombosis at 50. There are persons who have lived 18 to 20 years after the original coronary accident. So years may be long even with coronary heart disease. One executive offers an example of lack of hysteria after coronary thrombosis. He was 56 at the time of the seizure. He is now 67, so he has lived 11 years after his heart scar healed—and his batting average is better than the average man of 67. Of course, he may be stimulated by the record of longevity of his mother of 93—only one of our ladies in the ninth decade.

Take the peppy Irish builder of 64 (a mere youngster in our group) who has a healed coronary scar. He says, "If I cannot do as I please I am crippled." He indeed has a tough job to slow his dynamic energy to the easier pace that is necessary. Merry living and a good fight still crook an inviting finger at him. His coronary accident was only a year ago, and he is one who indeed needs to be influenced to change his way of living if he wants ten or twelve more years of the life he loves so well. He sighs "too many people to 'don't' me." His wife is resourceful and will probably be his best brake.

Lucky for our insurance friends that the cocky little machinist did not wander in as a boy for a policy. He is now 69 and has been under care for rheumatic heart disease for thirty-two years. He had a recent coronary

thrombosis, one of the "silent" kind, but which shows up in the electrocardiogram. The coronary picture does not flatter the heart! Out come the revealing lines. His great hope is to keep on with his work for another period so as to collect his pension. He probably will—he is accustomed to heart disease. He is not in the least apprehensive. He has gone to bed so long with it that he never thinks that he won't again wake up with it!

Angina pectoris is another bug-a-boo of heart disease. It is agony, sharp torture, yet lives are often spared many years with this dread heart disease. One little lady of more than passing interest in our study of cardiac longevity is 76 and has suffered anginal pain for twenty-six years. Yet with good care and necessary medication she is happy and seems to be better off than many on whom some dread disease may suddenly descend like a thief in the night. She was a teacher in early life, and she has taught herself how to manage with angina. She knows she has angina, she knows what to do for angina—so she knows how to snap her fingers at angina.

Many are the men who pass through a doctor's office who have angina which they control by slowing the pace and by using nitroglycerine as a crutch, which is of course medically supervised. For instance, one man knows he "only gets pain when he walks in a business way." Another admits he feels better since he has moderated his way of life for, as he says, "this is the first time I can ever remember when I wasn't hurrying."

The process of reeducation is indeed difficult for many people who are suddenly told that they have heart disease in the form of an anginal or coronary attack. And yet life depends on a new point of view. One's life must be made easier, like moving from a walk-up flat where four flights of stairs must be climbed twice a day to a modern apartment with an automatic elevator. While a mere youngster of 46 has nothing to do with our sixth to ninth decade veterans, except prevention, this woman proved an especially difficult person to teach the necessity for at least a six weeks lay-up for healing her coronary accident. She was impatient at her long convalescence. "Yet all art comes from the patience of impatience." She could not understand how necessary it was for her to resume her usual activity gradually during several months after her six weeks of bed rest. The doctor was at a loss. One day a minor accident to her hand brought her the realization of the major assault that had happened eight weeks before to her heart. She seemed to be clumsy in her irritation at illness. First she bumped her thumb-nail in the door of her refrigerator. The black mark on her nail took fourteen weeks to grow out. Not content with the first bump in her slap-dash motions, she bumped the same thumb-nail again—another black mark to mark time with. Every time she looked at her battle-scarred thumb she thought of what the doctor had told her about the coronary bruise—"time will tell—and heal." Another day when she was trying to light a match the whole box of matches went up in a little blaze between her thumb and her forefinger. It was a nasty burn. But again she was fascinated by the marvelous repair job nature accomplished in her mutilated tissues. She began to understand the slow healing that was going on in her heart. Her hand would have a scar—why not her heart? Her fourth injury convinced her (not only that she was clumsy, absent minded, or in love) but that her heart would still heal and beat a while. This time she was trying to make a new buttonhole and jabbed at the material with a scissors, but the scissors slipped and she almost sliced off the end of her finger. Clapping it back as it hung by a shred, a doctor bound up her latest wound. More tissue to watch. As each successive layer gave way to healing, she was absorbed in watching the new pink layer that had been formed by the reparative power of her body. Why not her coronary artery? The finger after several weeks is still tender and but slowly does she regain its full use. Gingerly she taps at a typewriter, saving it here and there, yet now vastly appreciative of her limited finger activity. Yet it had even interfered with the ordinary dexterity of her other nine fingers. She thought "just so does my heart, injured as it was, throw my whole body out of gear."

In the medical press under recent date Segal states that due to what Hogben has called "the arithmetic of human welfare," that is, the analysis of large series of coronary cases by statistical methods over long periods of time, the main result of these studies has shown that "coronary artery disease is losing its sting" and ". . . it is now becoming plain that a considerable proportion of the cases recover and resume their normal activities or some form of reduced activities." We may well leave the sufferers *(Continued on page 840)*

THE JOB'S YOURS

By DOROTHY J. KELLEY

—Suggestions for Teachers and Counselors

Here are many activities, projects and questions, based on "The Job's Yours," HYGEIA, September, page 696, to help the high school student realize the vocational value of health

HIGH SCHOOL STUDENTS everywhere are thinking about the kinds of work they will be doing when they have completed their education. Most of them are now planning to use their classroom experiences and knowledges as actual training for specific occupations. The books these students read—both boys and girls—the questions they ask their teachers or advisers, the topics they discuss among themselves, even their part-time or summer try-out work experiences are pertinent evidence that there is a continuous seeking by all youths for help in preparing for their life work.

The high school student is apt to evaluate critically each classroom experience in the light of his own vocational plans. To him his present living is just a stepping-stone to his future. He has heard since babyhood that he must have good health—eat well, sleep well and play well—in order to be happy and to succeed in school. He knows, in a general way, that he must possess good health to keep a job.

However, there are few high school students who give thought to the fact that the actual state of their adolescent health now has any great vocational value, even for future benefit. It is for the purpose of presenting this fact to all high school students—ages 12 to 18—that "The Job's Yours" has been written. (See HYGEIA, September 1941, page 696.)

The narrative form of "The Job's Yours" permits its use by teachers with class groups or by various advisers or counselors with individual students. It can be presented in different subject-matter classes as a unit of study—either as a tool for oral or written expression in an English class, or as information to be learned through experience in a Health or Careers class, for example.

The statements about desirable employment conditions and requirements made in "The Job's Yours" are not visionary but can be substantiated in large communities throughout the country. For this reason the material can be used with considerable value in classes, such as Junior High Social Studies, Community Civics, Sociology or Economics.

No attempt has been made to present a study unit for the presentation of "The Job's Yours" to students. It is felt that the more informal and spontaneous a student's reactions are to his reading and discussing the article the more worth while will be the results.

However, the following activities, projects and questions are suggested as ways of having the high school student realize more poignantly, through his own observations and self-seeking, the future vocational value of his adolescent health. No one teacher or counselor is expected to use all of them. These suggestions are addressed to the student:

(1) Procure application blanks from different employers in your community, and mount them on your classroom bulletin board. In an oral talk regarding these application blanks point out:

(a) Questions asked about an applicant's health.

(b) The different kinds of work represented and the health requirements for each.

(c) What high school students can do now to prepare to meet those health requirements.

(2) Conduct a panel-discussion about The Personal Qualities Employers Expect of High School Applicants. Include those qualities Mr.

Bryant emphasizes in "The Job's Yours." Your discussion group might include students posing as an office manager, a shop supervisor, a sales manager and a school principal.

(3) Debate the statement: Health is more important than training for vocational success.

(4) Investigate the reasons for which an aviation pilot must pass a stringent physical examination before he will be licensed to fly. Explain them to your class.

(5) If you have ever had a part-time or summer job, tell the class about your own experience and feeling unfit for your job when you missed some of your sleep or failed to eat nourishing food.

(6) Write a composition about "The Importance of an Employee's Physical Examination to the Employee and to Employer."

(7) Present to the class your reasons for believing that "keeping physically fit" does—or does not—bear relationship to personality.

(8) Name two or more occupations in which handicapped persons, such as the blind or deaf, could be unusually successful; name other kinds of handicaps and other occupations.

(9) Present to the class orally reasons why handicapped persons might be more successful vocationally than persons who are not.

(10) From magazines and newspapers collect, in a notebook, a number of pictures illustrating many different kinds of workers, men and women. Under each picture write three or four of the physical qualifications that are necessary to perform the kind of work the picture illustrates.

(11) Arrange with an employer in your community for your class to visit his company in order to observe what is done there to improve and maintain the health and safety of his employees.

(12) After the visit, suggested in No. 11, each member of your class might select some type of work which he observed especially, and write about the health requirements of that particular work. Read your reports to your class. You may wish first to consult your librarian for book references or talk to persons doing that kind of work.

(13) Write a play about applying for a job. Have one scene about an interview with an employer; another about a physical examination made by an industrial physician; and perhaps include a handicapped person procuring a job. Be sure to have an unsuccessful as well as a successful applicant in your play.

(14) What is a "square meal"?

(15) As a group leader, have members of your class help you list on the blackboard some of the occupations which require: strong muscles, good eyesight, steady nerves, good voice, good sense of smell, good sense of taste, finger dexterity, good posture and gait, good hearing, good feet and legs for standing, good lungs.

(16) Girls, in a food class, might carry on an experiment to determine the results of eating a mid-afternoon portion of some nourishing food, either in class or immediately after school—two weeks with the added food, two weeks without. Compare your results with those for the clerical workers mentioned in "The Job's Yours."

(17) Debate the statement: A good attitude is more important than good health to a job.

(18) Dramatize the story in "The Job's Yours." Divide your class into groups so that each group may present a different scene. A different student could take the part of Don or Mr. Bryant in each scene. Scenes you will wish to enlarge on are:

Don's being told, "The job's yours."
Don's visit to the medical service bureau.
The mid-morning milk-service.

(19) Girls, who are interested in cooking, dietetics, or nursing, should arrange to visit the cafeteria of an industrial company to learn how that company plans food for its employees.

(20) Name some occupations which have special physical requirements as to height, weight, or strength, for example, an air hostess. What are these requirements? Why?

(21) Prepare a picture or poster for classroom display illustrating the importance of health to getting a job. Perhaps your teacher will let you use colored chalk on the blackboard for this.

(22) Senior high school boys, who are interested in becoming engineers, physicians or manufacturers, or in establishing retail businesses which employ persons, should do considerable reading about the employer's problem of industrial fatigue. Present your findings to the class.

(23) Why does an employer suffer a financial loss if he employs a person who is not in good health?

(24) Likewise, why does a person suffer a financial loss when he enters an occupation for which he is not physically fit?

(25) Students who are interested in athletics, dramatics or music would enjoy visiting

some company which employs a large number of persons to learn what recreational activities it offers its employees. You should ask to talk to the person in charge of recreation or public relations.

(26) Lead a class discussion about the topic: "Physical fitness is the most essential qualification in keeping a job."

(27) Do you know of any employers who provide mid-morning or mid-afternoon milk service for their employees?

(28) Invite your school doctor, nurse, or physical education director, to talk about the importance of a well- *(Continued on page 862)*

Most high school students plan to use their classroom experiences and knowledges as actual training for specific occupations. The books they read, the questions they ask, the topics they discuss, even their first job experiences are pertinent evidence that they are seeking help in preparing for life.

Why We Lose Our Teeth: I

By PETER J. BREKHUS

THE THREE MAIN TYPES of dental deterioration found among civilized mankind—diseases that attack the dental tissues—are caries and pyorrhea, anomalies of structure such as malocclusion of the jaws and abnormal shape or arrangement of the teeth, and congenitally missing teeth.

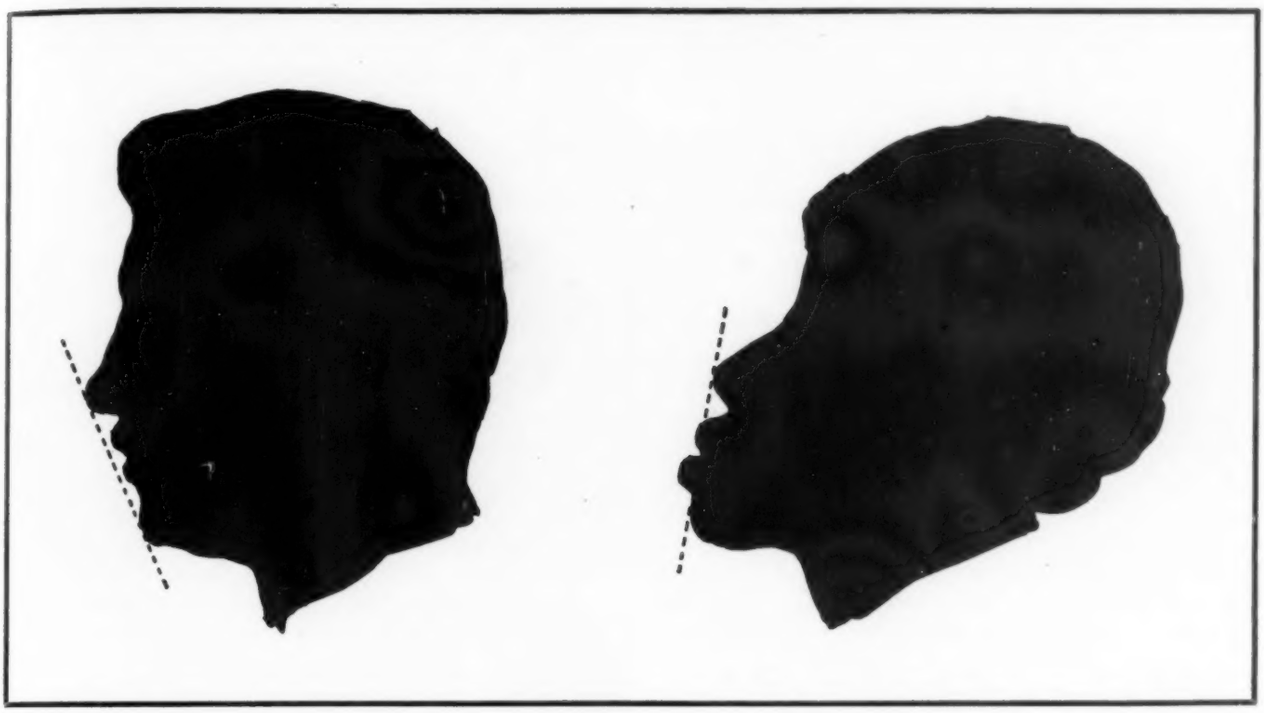
Although we cannot blame all these troubles on any single cause, certain elements in modern civilization appear to be responsible, if not for their initiation, at least for their continuance and recent increase. In the case of caries, no single theory of causation is accepted by the majority of workers, but many believe the disease is traceable to a complex pattern of causes closely related to civilized life.

The immediate causes of pyorrhea—local irritations, certain systemic conditions, and so on—are well known, but cases sometimes arise in which none of the known causes are apparent. It is thought by many students that the lack of stimulation of the gums attributable to civilized diet may be the main underlying cause of pyorrhea.

Malocclusion may be caused by one of several factors. The cause of one type of malocclusion may be the fact that the jaw of civilized man is apparently growing smaller while his teeth remain about the same average size. As W. A. Price and others have commented, the whole lower third of the face in civilized man tends to become retracted. Racial intermixture may also have something to do with malocclusion in some people, for it is seldom found in purebred races, yet it is common among racial hybrids. Malnutrition may affect adversely the development of the jawbones and thus lead to poor occlusion. But as J. Sim Wallace, Hugh K. Hatfield and others have pointed out, malocclusion and other dental irregularities may also be profoundly influenced by the habits of civilization, lack of stimulation of the jaw muscles in childhood leading to subnormal bone development in that region, and consequent lack of accommodation for the permanent teeth.

Anomalies of the teeth may not be always directly attributable to the advance of civilization, but they can be traced in most cases to embryonic disturbances. However, since such anomalies are much more common in civilized than in savage races and more common in modern than in ancient man, we may suppose that civilization has had something to do with their occurrence.

The non-appearance of certain permanent teeth is another example of the apparent influence of civilization on dental development.



The typically "primitive" face on the right shows a predominant development of the mandible, while the "civilized" type on the left favors a strong growth of the upper part of the face.

Like the rarer anomalies, congenitally missing teeth are found more often in civilized than in savage men, and more often in modern than in ancient jawbones. This condition is, of course, due to the fact that no germ has been laid down for certain teeth in the embryonic dental band. Just why this should happen so frequently among civilized people and so seldom among primitive savages or why it appears to be increasing as civilization becomes intensified, we do not know. We do know that it seems to be concomitant with civilized life, and we must hope that future research will show us just what it is in our present habits that is related to the failure of certain teeth to develop in the embryo.

The Influence of Function

Soft foods rob our dental tissues of needed stimulation, and thus, as many of us believe, predispose them to disease. It is a matter of common observation that long-continued disuse of an organ tends to weaken it or even in extreme cases to reduce it to an atrophied condition. Many of us have learned by experience or observation that a person who has been confined to his bed is unable to walk when he first gets up on his feet again, even though his illness or injury was in no obvious way related to the functioning of his legs. That a limb never used may in time undergo complete atrophy is evinced by a religious sect in India, who for long periods of time hold an arm in one position, until eventually it becomes shriveled and useless. Conversely, we are well aware that constant exercise of an organ tends to increase its strength and frequently also its size.

An organ which has been in a state of disuse for innumerable generations is the vermiform appendix, which has no apparent function under our present mode of life, except to make a nuisance of itself. In our arboreal, herbivorous ancestors it was not only much longer but also a functioning part of the large intestine, as it still is in some of the higher apes. Pathologists state that in more than 50 per cent of persons over 60 years of age the appendix shrivels up, causing no distressing symptom in this process. And it may well be that its lack of use is the underlying reason for its great susceptibility to disease in younger persons.

Physiologic reasons for the deterioration of organs seldom or never exercised are not known at present. In children, as we have seen, bone development is affected by the action of attached muscles, and in both chil-

dren and adults lack of the normal exercise of any organ may be followed by a demonstrable deterioration of the organ. Possibly this is because lack of exercise tends to lessen the blood supply of the organ, thereby reducing its nourishment, cutting down its oxygen and curtailing the removal of its waste matters. Such conditions may lessen the resistance of the organ to attacking forces in its environment and may undermine its ability to fight off infections through the immunizing agents present in normal blood.

We cannot say, of course, that the teeth and jaws of civilized man are seldom or never exercised. Casual observation of any group of average Americans reveals a ceaseless motion of the jaws that puts cudchewing animals to shame. Moreover, steaks and chops, raw vegetable salads, and hardtack glorified by various fancy names have not yet disappeared from restaurant menus, and the citizen celebrating Thanksgiving or Christmas in the privacy of his home still enjoys gnawing the succulent meat off a drumstick.

Yet when we compare our diet in general with that of more primitive feeders, we find that although we have not banished those foods that require considerable chewing, we do eat a much greater proportion of soft, partially predigested foods than any race living under primitive conditions or than any generation that lived before the introduction of modern methods of refining and concentrating foods. It may be amusing for the reader to list for a week or two the items he eats at each meal, and also between meals, under two headings: foods that could be consumed nearly as well without teeth as with them, and foods that really require hard chewing. We are willing to wager that in most cases the first list will be much longer than the second.

Correlation of Dentition and Diet

A correlation exists between dentition and diet in various animals. If we were to place all horses, for instance, in an environment totally lacking in grass, hay, grain and other foods to which their present dentition is adapted, one of two things would happen. Either the entire race of horses would die out, or a few might be able to adjust themselves to the diet provided. These would survive perhaps long enough to reproduce, and their progeny would in turn either have to adapt themselves to the new diet, or pass out of existence. Those offspring fortunate enough to inherit variations from the normal horse form that made possible their adoption of such a diet would be the ones to survive. In other words, the environment has been the deciding factor. Thus, we believe, the specific variations in animal and human teeth have developed through mutual adaptation of dentition and diet.

Among prehistoric manlike forms there were types in which the dentition was adapted to a more herbivorous diet than we now consume. The perfect human dentition, found today almost exclusively among primitive-living people, indicates that modern man is naturally an omnivorous eater. If we had nothing to judge by except the teeth of typical civilized persons, we might conclude that human dentition is becoming adapted to a soft diet, entirely lacking in the tough and fibrous substances eaten by ancient and contemporary races much less civilized than ourselves.

Probably, as Owen Meredith's lines would indicate, the essence of civilization consists not in poetry, music and art, in ethical conduct or in refined social intercourse, but in the cooking of food:

We may live without poetry, music and art;
We may live without conscience and live without heart;
We may live without friends, we may live without books,
But civilized man cannot live without cooks.

At any rate we would be miserable, for a time at least, if we were forced to live without cooks, for modern cooking and its allied processes of refining and concentrating foods perform for us many of the preliminary digestive operations that our broken down teeth are now incapable of taking care of. There seems to be a vicious circle involved in this situation. We have to eat soft foods because our teeth are for the most part incapable of masticating anything else, and the more soft foods we eat, the worse our teeth become.

The paleontologists of the future who examine our feeble little jawbones, with their few good incisors flanked by decayed and filled teeth or patched up with all kinds of brilliantly conceived dental appliances, may be forgiven in advance for considering us a dentally degenerate race. If any of the current "funny" pictures of Andy Gump and Caspar Milquetoast survive, *(Continued on page 855)*

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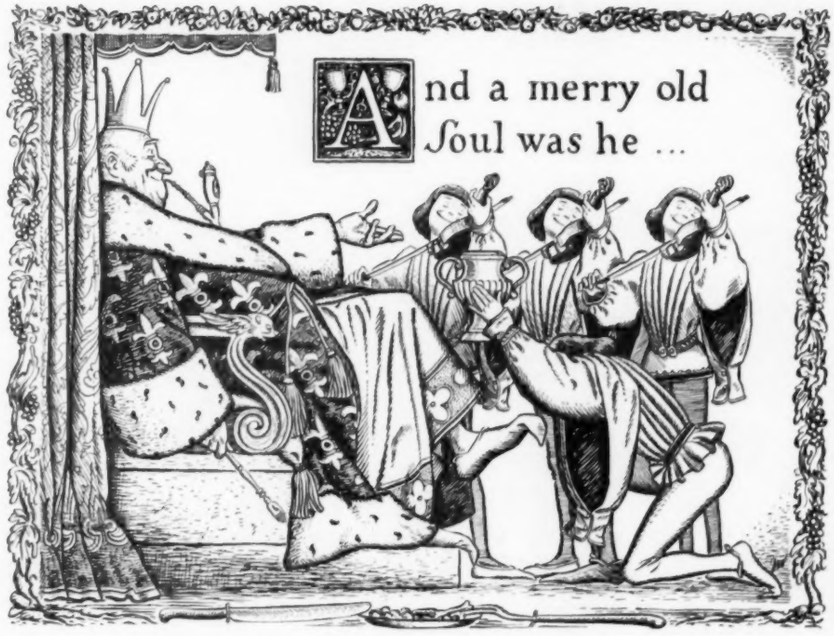

WE HATE TO DISAGREE WITH MOTHER GOOSE

OUR "MOTHER GOOSE" BOOKS usually picture Old King Cole as a *fat* old soul.

Much as we hate to question these old favorites, it isn't very likely that anyone burdened with such excess poundage would actually live to be *old*.

Overweight and long life rarely go together.

A study of men accepted for life insurance recently revealed that those moderately overweight had a death rate 20% higher than men of average weight, and that the death rate of the obese was 70% higher. Circulatory and kidney diseases took a 60% higher toll from the overweight. Mortality from diabetes averaged 150% higher among the overweight.

After you are thirty, it becomes increasingly advisable to keep your weight down to normal, even to stay a little *underweight*. Overweight then tends to increase your susceptibility to many diseases, as well as to decrease your power to recover from illnesses. By keeping your weight down, you can avoid the burden which obesity puts on your heart, kidneys, liver, and other organs.

Overweight is an insidious thing, usually creeping up on you by unnoticed ounces and inches. That is why it is so important to establish proper eating and exercising habits to control any such tendency. If you tend to put on weight, regular checkups on your weight should be made as much a habit as bathing.

Your doctor is your best guide in helping you to establish sound weight control. He will determine what your weight should really be. He will explain the dangers of "overweight cures," of quick, drastic reducing methods—methods that frequently undermine health rather than improve it. And—unless some serious glandular or other condition requires special treatment—he will show you that in order to lose excess weight it is not necessary to go in for too strenuous exercises or too radical changes in your diet.

Write today for Metropolitan's free booklet, 101-Z, "Overweight and Underweight." It gives a number of helpful low-calorie menus and offers many safe and sane suggestions to help you control your weight, subject to your doctor's approval.

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An interesting 10-minute Technicolor movie on food and health—"PROOF OF THE PUDDING"—has been produced by Metropolitan in co-operation with the United States Public Health Service. It is a contribution to national nutrition education. See it when it comes to your neighborhood.

TONSIL FLAP

The extreme pain and discomfort following surgical removal of the tonsils may be reduced to a minimum by means of a flap of mucous membrane from the tonsil which is used to cover the wound made by the operation, Robert H. Fowler, New York, reports in *The Journal of the American Medical Association.*

"It takes but a minute to cut a flap at the time of the first incision of the mucous membrane"; the author says, "it takes less than a minute when the tonsil has been removed to anchor this flap with a catgut slipknot to the fascia [connective fiber-like tissue] at the center of the wound in such a way as to help nature in the healing. But the technic must be accurate; it takes a deft hand, and the new design must be based on anatomic lines which nature follows in the repair. . . .

"The new plan of repair designed to minimize convalescence by partially covering the exposed portion . . . with a protective mucous membrane at the time of operation obviates the most severe pain and discomfort later. The patient eats breakfast the next morning. The time for the wound to cover over is lessened by half, and the amount of scarring is almost nil. No longer does tonsillectomy [surgical removal of the tonsils] involve a large open wound set to catch food and become infected and so entail great discomfort and soreness for ten days."

NEW METHOD OF MEDICAL CONTROL OF INDUSTRIAL HEALTH

Based on their contention that the first signs of exposure to toxic or poisonous chemicals are definite changes in pulse rate and in blood pressure, John H. Foulger and Allan J. Fleming, Wilmington, Del., report in *The Journal of the American Medical Association* a new method for medical control of industrial health whereby the earliest signs of exposure to various chemical compounds are detected by means of blood pressure measurements recorded regularly on special charts designed by them.

By RUTH COWAN CLOUSE

Essentials of an Adequate Diet: III

Only recently has the importance of riboflavin for human nutrition become established. This vitamin is now known to be a necessary factor in normal health and well-being

RIBOFLAVIN is the second to be identified in that fascinating but still incompletely understood group of dietary essentials frequently referred to as the "vitamin B complex." The existence of a vitamin having the characteristics of riboflavin was first postulated nearly twenty years ago. Its importance for animal nutrition was soon recognized. Only recently, however, has its role as an indispensable factor in human diets been clearly established.

Riboflavin is familiar to most persons as the substance which gives the greenish-yellow tinge to milk whey. In this form it has been known for many years. It is relatively abundant in milk and is now known to occur also in eggs, meat, particularly glandular organs such as liver and kidney, and in green leafy vegetables such as spinach, kale and escarole. Other foods now recognized as rich sources of riboflavin are wheat germ and yeast.

The discovery of the importance of riboflavin for human nutrition has been an outgrowth of the recent dramatic studies of pellagra. In the course of their studies of this disease several investigators observed that certain symptoms formerly considered characteristic of pellagra, and therefore attributed to a deficiency of the "pellagra preventive factor" (nicotinic acid), can be cured only by the administration of adequate amounts of riboflavin. Now it is recognized that these symptoms may occur in persons suffering from pellagra or may occur independently in persons suffering from riboflavin deficiency alone. They also may appear in both children and adults.

The prominent symptoms of riboflavin deficiency include fissures, or cracks, at the corners of the mouth, often referred to as "poor man's mouth," a characteristic purplish-red color of the tongue, and certain types of eye disease. In common with each of the other vitamins, riboflavin is essential for normal growth and normal nutrition and for the maintenance of normal resistance to infection in general. It is also important for the prevention of certain types of skin disorders, at least in experimental animals.

In addition to these functions riboflavin forms an essential part of certain respiratory enzymes which are necessary for the proper use of oxygen by the tissues. Thus it is evident that the daily requirements for this vitamin must depend in part at least on the size and activity of the person. The standard daily allowances recommended by the Committee on Food and Nutrition of the National Research Council which are reproduced in table 1 therefore show variations for persons of different ages, size and degrees of physical activity.

Evidence now available indicates that the average man of sedentary occupation or the moderately active woman should receive as much as 2.2 milligrams (.0022 grams) of riboflavin daily. Very active men, lactating women and active adolescent boys should receive 3 milligrams or more. Children should receive from 0.6 milligram in infancy to 1.8 milligrams at 10 to 12 years.

The average riboflavin content of a selected list of common foods is provided in table 2. The table shows that of all the common foods which can conveniently be eaten daily, milk is by far the most important source of riboflavin. One pint of milk can be relied on to supply an average of 1.07 milligrams of riboflavin or approximately half of the daily requirement of a sedentary man or of a moderately active woman. A quart of milk daily will supply ample amounts of riboflavin to children in any age group. Other outstandingly rich sources of riboflavin are liver, soybeans either fresh or dried, dried yeast and turnip greens.

Comparison of the values given in table 2 with those given in table 2 of the preceding article of this series (HYGEIA, September 1941, p. 729) will show that few foods are equally rich in both thiamine and riboflavin. Milk, liver, green leafy vegetables and prunes are considerably richer in riboflavin than in thiamine, while pork, dried yeast, wheat germ and cereals in general are richer in thiamine than in riboflavin.

In spite of these differences in composition it still may be estimated that the diet described in the preceding article, namely, a diet consisting of one pint of milk, one egg, six slices of whole wheat bread, four ounces, or one fourth pound of beef, one apple and 100 grams or approximately one half cup of cabbage, carrots, orange juice, potato and oatmeal will provide as much as 2.19 milligrams of riboflavin, or as much as is required by the average man of sedentary activity. As in the case of thiamine, larger amounts of riboflavin can be obtained from larger servings of the foods listed or more generous use of milk, liver, green leafy vegetables, prunes and other foods rich in this vitamin.

If white bread is substituted for whole wheat bread in the diet described in the foregoing paragraph its riboflavin content will be re-

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duced from 2.19 milligrams to 1.94 milligrams. Relatively few brands of enriched flour and bread now contain added riboflavin. The use of these products, therefore, cannot at present be depended on to compensate for the riboflavin deficiencies of white flour or bread. It is expected that riboflavin or its concentrate will be added to enriched cereal products as soon as adequate supplies of these materials become commercially available. In the meantime, however, particular care should be taken to select foods of high riboflavin content if whole wheat or its products is not eaten.

As in the case of thiamine the values shown in table 2 represent in most instances the average composition of the raw foods. This does not mean, of course, that these foods are expected to be eaten raw but that, if maximum vitamin values are to be obtained, care should be taken to prevent losses in the preparation and cooking or canning of foods. Unlike thiamine and certain other vitamins riboflavin is not greatly affected by the temperatures ordinarily used in cooking or canning. Care should be taken, however, to prevent losses due to the solution of the vitamin in the cooking water. The use of soda, which accelerates the destruction of the vitamin by heat, also should be avoided.

TABLE 1

Standard Allowances for Riboflavin as Recommended by the Committee on Food and Nutrition of the National Research Council

	Mg.
Man (154 pounds)	
Moderately active	2.7
Very active	3.3
Sedentary	2.2
Woman (123.2 pounds)	
Moderately active	2.2
Very active	2.7
Sedentary	1.8
Pregnancy (latter half)	2.5
Lactation	3.0
Children up to 12 years	Mg.
Under 1 year	0.6
1- 3 years	0.9
4- 6 years	1.2
7- 9 years	1.5
10-12 years	1.8
Children over 12 years	
Girls—13-15 years	2.0
16-20 years	1.8
Boys—13-15 years	2.4
16-20 years	3.0

TABLE 2

Riboflavin Content of Average Daily Portions of Common Foods

		Mg.			Mg.
Milk	pint	1.07	Soybeans, yellow, dried	100 grams	2.70
Egg	1 average	.18	Potato	100 grams	.06
Pork	4 ounces	.29	Orange juice	100 grams	.06
Liver	4 ounces	2.51	Prunes, dried	5 medium	.25
Beef, average fat content	4 ounces	.25	Apple	1 large	.10
Spinach	100 grams	.35	Oatmeal, cooked	100 grams	.03
Turnip greens	100 grams	.75	Peanut butter	3 level table spoons	.20
Cabbage	100 grams	.10	Whole wheat bread	6 slices	.29
Carrots	100 grams	.10	White bread	6 slices	.05
Tomato	100 grams	.05	Wheat germ	1 ounce	.20
Soybeans, green	100 grams	.96	Dried brewer's yeast	1 ounce	.89

A RAPID TEST FOR PNEUMONIA TYPES

A rapid test which determines whether or not the type or strain of organism involved in a case of pneumonia may be resistant to sulfapyridine has been developed by Frederick J. Moore, Roy E. Thomas and Anson Hoyt, Los Angeles, they report in *The Journal of the American Medical Association.* The test is based on the inoculation of sputum from pneumonia patients into treated and untreated mice. Present methods of determining resistance require several days and time is a vital element in the treatment of the disease. Although sulfapyridine has proved an effective agent with which to combat pneumonia, the fact that there are more than thirty different types of the organism which cause lobar pneumonia (pneumococci) and that there are differences in the resistance of these organisms to sulfapyridine has made the problem an important one.

Conquerors of Yellow Fever

(Continued from page 784)

replacing Captain Stark as commanding officer of the Columbia Barracks Post Hospital, had found a small notebook containing entries about Lazear's experiments. Reed eagerly studied these and other notes. Herein was the solution of the age-old mystery, a solution which became crystal clear to the brilliant mind of Walter Reed. Finlay's mosquito (the Aedes Aegypti) could indeed cause yellow fever but only under certain special conditions. By carefully noting the relative timings of each step in the successful and unsuccessful experiments it became obvious that patients with yellow fever have the agent or virus of their disease circulating in their blood only the first three days of their illness; later when they are sicker, even approaching death, the agent has strangely disappeared from the blood. Therefore, a mosquito to become "infected" must bite a yellow fever victim during these first three days. But even then that "infected mosquito" cannot transmit its deadly load or infect another person until the virus has had a chance to develop or "ripen" within the mosquito's body for at least twelve days. All of the failures of Finlay and of the Board were thus explained: those volunteers who had not developed yellow fever had either been bitten by mosquitoes which had really never been infected, having bitten patients too late, or had been bitten by "infected mosquitoes" which were still temporarily harmless because they had not been allowed to "ripen."

Thus Lazear's little notebook was vitally useful in solving one mystery but it posed another mystery, for in it Reed found some incomplete entries which appeared to indicate that Lazear had secretly submitted himself to other experimental inoculations. Reed pondered long over these entries and then concluded, according to Dr. (now General) Truby, that when Lazear was taken sick he worried lest his life insurance become

(Continued on page 829)

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"WHITE BREAD is bad for you," "Bran is good for you," "Chew your food more thoroughly," "Drink no water with meals," "Most of us eat too much meat," "Avoid incompatibles, such as lobsters and ice cream, or fish and milk at the same meal."

Doubtless some of these statements are familiar to you. Some seem believable. Others are obvious fallacies. Yet they may contain a grain of distorted truth.

The germ and bran of the wheat are valued for Vitamin B_1. Wheat germ is now incorporated in some breakfast foods and may be purchased separately for about 40 cents a pound. Bran may be bought separately and used as desired, or one may purchase whole wheat products. The outer covering of the wheat furnishes roughage, also iron.

The starchy part of the grain, that is, the white flour used for white bread, and the farina for breakfast food, and other white wheat products such as macaroni, are readily digested, nonirritating and suited to all normal persons. They are useful in special, smooth diets where no bran or irritating roughage is allowed.

The criticism of wholesome food should not detract from the appreciation of its inherent value. White flour is practical to store, to ship, and to incorporate in many tasty recipes.

It should be remembered that cereals and bread are not used alone, but in combination with fruits, vegetables, meat, butter and milk to make the well balanced diet. When sufficient fruit, vegetables, dairy products, eggs and meat are included, the diet is adequate.

The bran enthusiasts of recent years have received severe criticism from physicians and dietitians because the inside of the intestinal wall is a tender surface easily injured by slight irritation.

The outer coats of grains make a good abrasive. Coarse bran is regularly used in tumbling barrels in factories to put a high polish on steel and brass articles. But a little finely divided bran, together with a comparatively large amount of other food is not usually dangerous.

Many so-called health breads are coarse, unpalatable, tough and lumpy. Instead of selecting bran for its laxative effect, consider prunes, fruits and vegetables as they furnish cellulose which, in proper proportion, is favorable to the mechanics of digestion and the hygiene of the digestive tract. All such material not dissolved by the digestive enzymes is sometimes called "roughage," but according to Sherman, "some forms of cellulose are relatively smooth, yet contribute desirable bulk to the mass of food and its undigested residue.

Fletcherizing—chewing each mouthful of food thirty-two times—put many persons on the thirty-two chew cycle.

Food Fads, Fallacies and Facts: III

By DORIS W. McCRAY

Every normal dietary should contain sufficient indigestible fiber." To what extent this should be real roughage, such as bran, and to what extent the soft smooth forms of cellulose, varies greatly. All persons are not alike.

Whole grain cereals should be cooked long enough to soften the outer covering of the grain. Often this is done in the factory to make the cereal easy to prepare in the home.

Sugar is chemically pure. As Dr. Slosson first pointed out—that is its fault as well as its virtue. Cane or beet sugar contains no minerals or vitamins. Cane molasses syrup from which cane sugar is manufactured, is a food source of iron. Beet molasses is sold as a food for farm animals. An ounce of beet or cane sugar will provide 113 calories and nothing more. For this reason, sugar is known as a good, cheap source of energy. Sugar is quickly absorbed into the blood stream. That is why we experience a "lift" after eating a candy bar. There is evidence that too much sugar in the diet, especially the diet of children, increases the incidence of caries.

Another fad was "Fletcherizing" or chewing every mouthful of food thirty-two times. This put many persons on the 32-chew cycle, and the idea still persists that one should chew food more than is customary. That may be true in some cases, but much of the food we eat today is finely divided in the manufacture or preparation, and we need merely to taste it for pleasure and mix it well with saliva to begin the first step in digestion. Other foods, such as raw carrots, should be chewed moderately well. Babies should be given sieved foods, small children should have chopped foods, and in some special diets the food must be sieved or chopped.

At one time it was thought by many people that all the ills of mankind could be prevented or cured by sour milk, buttermilk and cottage cheese. These foods sold rapidly, and since they are wholesome no one was damaged by such a fad, except those who sold competitive foods. The public should not be duped by propaganda which is not based on sound scientific fact. However, Metchnikoff's theory of using sour milk to reach a "green old age" soon lost followers. We value dairy products chiefly for their calcium. They also contain

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• HYGEIA •

phosphorus, other minerals and vitamins. While they do not provide a veritable secret of youth, they are useful foods.

One reformer comes after another; in one case it is a restricted vegetable diet, and again it is a mono-diet or diet of only one kind of food. Salisbury, for whom the Salisbury steak (glorified Hamburger) was named, would cure everything with a bit of scraped meat followed by two sips of hot water, but his popularity was far outbalanced by the vegetarians, strict, modified and raw.

The strict vegetarians tolerate only that which grows from the soil, namely: grain, vegetables, fruit and nuts. Those with modified ideas obtain a better balanced diet by the inclusion of the dairy products, milk, butter and cheese, and also the addition of eggs. Those who advocate only raw foods have a miserable time; they need music, philosophy or religion to cheer them, for they can get little joy from food. One book advocates heating the raw food to make it more palatable. Sometimes astrology, as well as religion, is mixed with dietary advice. It is important to learn enough of food chemistry to realize such gross errors or, simpler yet, to learn what sources of information are reliable.

On the subject of "unfired diet," one writer says, "You may have a sinking feeling in the stomach. But persevere—this is due, in the case of meat-eaters to the lack of animal extractives, and in the case of the vegetarian to taking away of the stimulating effect of the cooked and irritating salts." The author was obviously misinformed.

It is to be noted, in connection with a discussion of cooking, that some foods, allergic in effect when eaten raw by some people, are rendered harmless when cooked. Cooking softens the fiber of foods and makes food more readily digestible and less irritating to the intestinal tract.

Although vegetarianism has been extolled and meat criticized in the past, human experience through history has shown meat to be a valuable food. The composition of meat is more nearly like the proteins found in the human body than are the proteins of nuts and beans. Meat is a more complete protein to furnish the material from which to build the human tissues. Meat is nutritionally economical, it is practical, and it certainly appeals to the taste. For the normal person, it is highly recommended. A vegetarian diet is greatly improved by the addition of eggs and dairy products, but it cannot equal the normal diet that includes meat.

Meat without a sprinkle of salt would not appeal to popular taste but there are still no-salt creeds. In a "Treatise on Salt," the author gleans from the ancient Egyptian priests and wise men, the scriptures and "the author's own experience of many years," the great "principles of Egyptian knowledge." He gives a list of the "diseases caused by salt," elaborates on "its hurtful effects on the body and mind of man and on animals," and states that "by the abstinence from salt, soon the spirits improve, with placidity and calmness of mind so essential to good health. The great bodily and mental advantages to be derived from abstinence from salt, cannot fail speedily to become evident, as to cause it to be very extensively practiced." That this anti-salt quack has not enjoyed popularity, we know, for there is always another quack to catch the attention of the person who dotes on this sort of thing.

In scientific literature, we find no evidence of any ill effects of salt as taken in ordinary food seasoning by normal persons. Salt has been maligned and revered since ancient times.

Water is another item for human consumption. But it is a common belief that one should not drink water with the meals. A more accurate statement is that one should not wash the food down with water in place of mixing food with saliva, and that one should not take too large quantities of water.

It was once a common belief that carbonated water contained a poisonous gas; however, it is known now that it is harmless and appetizing, but possesses no special nutritional value.

In the "Nature Cure Cook Book" is the statement that "the soup habit should be avoided." While this statement is fallacious, it is better not to drink huge quantities of water with meals, and it is wise to drink moderate amounts of water between meals.

The idea of the compatibility of foods has come down through the

ages. Certain foods are said to harmonize with each other, while some have been considered antagonistic.

"An Encyclopedia of Diet" written in 1914 gives elaborate tables of digestive harmonies and disharmonies. According to present knowledge of nutrition, there is no such thing as "incompatible foods" or combinations of foods. There are, as we all know, certain people who are allergic to certain foods which must be eliminated from their diet. However, it is grossly inaccurate to say that you should not drink milk with fish, or eat ice cream at the same meal with shellfish. The two do not form any poisonous combination. If the fish is spoiled it will cause trouble regardless of whether it is eaten with milk or ice cream.

One school of thought lists compatible and incompatible foods and states that "starch is not to be taken at a protein meal." The assertion has been made that "the two cannot be eaten together because starches require alkaline condition for digestion and proteins require acid." There is no foundation for such beliefs.

Extensive tables of digestive harmonies and disharmonies only make more work for the printer and book binder, more words to sell to a gullible public.

Next month: fallacy about reducing and gaining weight.

REDUCING DANGERS OF FLOOR-BORNE INFECTIONS

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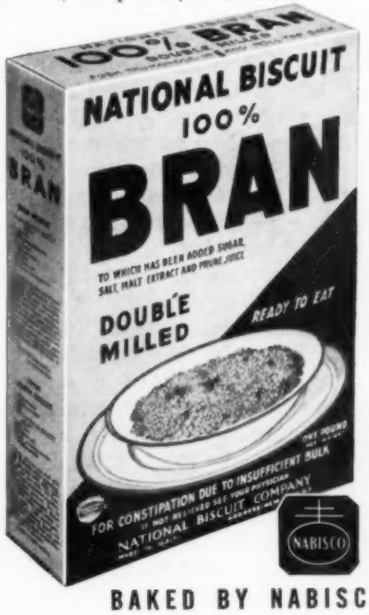

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If your constipation is not helped in this simple manner, consult a competent physician.

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Emotional Outlets

(*Continued from page 786*)

Also, there are many tensions which go so deeply into the substructures of the personality and so far back in the history of the person that all the known methods of release are almost powerless to maintain a normal equilibrium. For these, only escape from reality makes life bearable, escape into the loss of self, induced by drugs or alcohol. Such loss of self, either for the experience of new sensations, or because the world proves too difficult a place to live in, has been sought by men all over the globe, at all times and among nearly all peoples. Sometimes the escape is only for the moment, from some overwhelming grief, some bitter disappointment, some insoluble perplexity. Again, it may be the only means of supporting an unendurable monotony or drudgery, an agonizing loneliness, intolerable drabness or physical pain. The means to the escape is relatively simple. Fermented goat's milk, germinating cereals, the juice of the grape, the soured sap of a tree, or even the juice of the poppy —all serve the same purpose.

But grief and disappointment pass away, perplexity may resolve and the need for escape in drink or drugs disappear. The worker, condemned to a routine of backbreaking drudgery goes off on an occasional "binge" and nobody can blame him much. The society playboy, with all the world to choose from, is as weary of the endless round of his own kind of monotony and seeks the same escape, only more frequently, since he has the wherewithal to do so.

But neither the release of an occasional drink nor a few drinks too many on an occasional Saturday night make one a drunkard or a "chronic drinker." The big difference lies in whether one can take it or leave it. In the case of the chronic drinker, he can take it, but he can, unfortunately, not leave it. Berating him for self indulgence and lack of will power is as useless as wishing for the cure of disease. His problem lies deep, sometimes in an actual physical sensitiveness to alcohol which makes him unable to stop drinking once he begins, but more often in the conditions of his childhood and the unhealthy influences of his adolescent years.

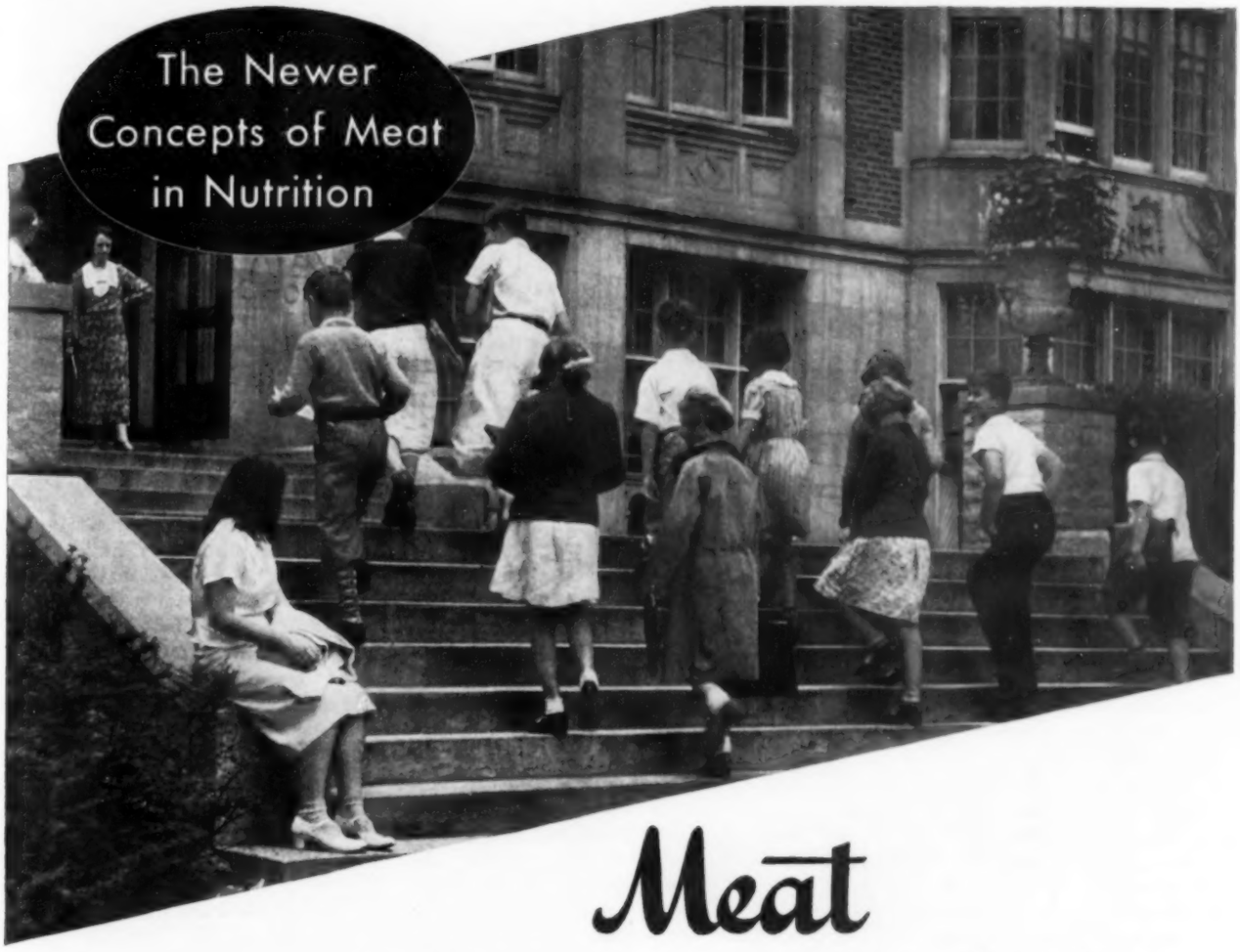
Interviews with chronic drunkards reveal patterns of early life and emotional characteristics which are surprisingly the same. Often the only child, he is the victim of a doting, overindulgent, sentimental mother and of a severe and awe-inspiring father, and of the conflicts of both of them. Alternately babied and bullied, he grows up emotionally unstable and immature, unsure and distrustful of his own powers and capacities, and unable to depend on himself when exposed to the world. Aware of his own passive, childish and feminine wishes, which are in such marked contrast to his father's impressive masculinity, he begins early to assert his own "manhood" by indulgence in hard drinking and "helling around with the boys." It follows that he is unable to hold a position under these conditions, nor is it possible for him to develop any sense of responsibility or cooperation.

His feeling of insecurity makes him avoid solitude and he is generally "hail fellow well met" and the life of the party. This same feeling of insecurity and dependence leads him to religion and he is often devout, attending church regularly when he is ambulant. Because alcohol takes the place of many things for him, his sexual needs are limited, but to hide this from the observer, he acts the fervent Don Juan. This limitation, combined with his emotional immaturity, his lack of a sense of responsibility and cooperation and his feeling of insecurity and dependence make him a totally inadequate husband, and it is no wonder that the most determined woman throws up the job as hopeless and either consigns him to an institution for treatment or dissolves the marriage by divorce.

Even in an institution such a case is difficult to treat because of the patient's lack of cooperation and his poor insight into his own situation. He is resentful if every childish wish is not satisfied, truculent when he cannot allay his anxieties by the accustomed means. Sobriety and personal achievement have at no time in his life been his ambitions, consequently it is not easy to persuade him of the desirability of giving up liquor for other satisfactions. Not the least of the problems for the attending physicians is the interference of his relatives, who have always spoiled him and who insist on taking him home as soon as he shows some signs of improvement. The case is by no means hopeless, however. Often his very dependence and his admiration of the dominant male make the patient eager to please the physician, and if his cooperation can be maintained, he may be reeducated to a more normal existence.

Often after long and patient care, the sufferer relapses again, especially if he meets with failure and discouragement in the outside world. But even if he does, he has already discovered some new strengths in himself and will undertake treatment again with more confidence of success. Many complete cures have been reported, and the reclamation of these personalities is ample reward for the skill and time which accomplished them.

Recent reports indicate that alcoholism is on the increase as well as the consumption of liquor by persons who are far from being alcoholics. The drug traffic is by no means completely controlled. The tobacco and chewing gum industries offer the highest dividends in their history. The "escape" drama is in its heyday. The tensions, little and big, accumulate faster than they can be dissipated. Something must give under the pressure. What will crack?



Meat

in the Dietary as Life Turns Back Indoors

THIS is the season of gradually decreasing daylight, when life naturally turns back indoors. Although fewer hours are spent in strenuous physical exercise, the need for an adequate diet is equally urgent during the winter months. While food of course cannot confer immunity to illness, there is no doubt that a diet adequate in all essentials helps to promote resistance against many of the infectious diseases more prevalent at this time of the year.*

To merit the designation "adequate" the day's meals must provide calories and food essentials—protein, calcium, iron, vitamin A, thiamine (vitamin B_1), riboflavin (vitamin G or B_2), nicotinic acid (a vitamin needed for the prevention of pellagra), ascorbic acid (vitamin C) and vitamin D—in sufficient amounts to satisfy the body's energy and nutritional needs. Meat, one of the foods that everyone enjoys eating, supplies many of these food essentials.

It is one of the richest sources of high quality proteins. Without adequate amounts of such high quality proteins the child's growth may become seriously hampered.

Meat contains important amounts of the B vitamins—thiamine, riboflavin, and nicotinic acid—so essential to the maintenance of sound health and growth. And it contains appreciable amounts of iron, copper, and phosphorus, all of them dietary essentials.

For its rich gifts of needed nutrients, as well as for its palatability, meat should be given an important place in the child's daily meals.

*Food and Life: U. S. Dept. of Agric. Yearbook, Washington, D. C.: Supt. of Doc., Govern. Print. Off., 1939, p. 10.

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The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
CHICAGO

How Vitamin C Civilized a Sub-Continent

Cape Town, South Africa, grew directly out of the need for this single vitamin

By HAROLD O. HOFMEYR

SOUTH AFRICA is unique in that what is now the Union of South Africa began as a revictualling station for the prevention of scurvy among sailors in the Seventeenth Century.

From time immemorial some men have developed the urge to explore the world beyond the environment in which they were born. Thirst, hunger, curiosity, hunting, fishing, the search for precious stones and metals and many other urges prompted man to go further afield. He soon found that it was wise to carry food and water where the terrain was not well known to him, or where his return to his permanent abode might be delayed.

As time went on man took to the lakes and the sea. While his seafaring pursuits were confined to the limits of the Mediterranean Sea, the provisioning of his crews were of no great concern to him. But when he attempted long sea voyages along barren or hostile coasts he soon found, from disastrous experience, that the quality of his food was of the greatest importance. To survive and still pursue his new ventures man found that careful planning included the provision of clean unpolluted water and the successful addition of fresh vegetables and fruit to his diet. In our own time this evolutionary principle is still being developed in that man, in his excursions into the stratosphere, must provide himself with the vital oxygen to maintain life.

During the Fifteenth and Sixteenth Centuries the need of a sea route to India became more and more urgent. The old overland route to the treasures of the East, beset as it was by robbers, cutthroats and pirates, caused the sailors of Holland, England and Portugal to develop a sea route. By the end of the Fifteenth Century Bartholomew Diaz, Christopher Columbus and Vasco da Gama had completed their epoch-making voyages with this object in view. Eager for the riches of the new continents the sea-faring nations sailed in their wake.

The voyage to India and the East and back via the Cape of Good Hope was protracted, the sailing vessels of the time often requiring six months or more to complete the outward half. Scurvy appeared because of the lack of bases and the great tracts of open ocean which had to be covered. Usually on arrival in the East, one third of the crew were dead and another one-third completely incapacitated by scurvy. In addition crews were required to fight not only disease but other contenders for the Eastern trade. A mutual revictualling station at the Cape was considered by Portugal, Holland and England during the Sixteenth Century, but their intense rivalry for sea power made cooperation impossible. In the early Seventeenth Century Holland decided to act so that on the sixth of April, 1652, the Dutch East India Company's expedition of three ships, the "Good Hope," "Heron" and "Dromedaries," arrived at the Cape of Good Hope to found a permanent settlement. It was appropriate that a doctor, a ship surgeon named Johann van Riebeek, should have been in charge of the first settlement which was destined to play so highly successful a part in promoting the good health of sea-faring crews engaged in the Eastern trade. Table Mountain provided a bountiful supply of fresh water for the ships and the fruit and vegetable gardens which the industrious Hollanders soon established. Meat was obtained from bartered native cattle, or by hunting the vast herds of game that abounded in the hinterland. Such was the genesis of the city of Cape Town that grew directly out of the dire need for a single vitamin: vitamin C.

Thus, scurvy and its prevention was instrumental in establishing a permanent settlement at the Cape of Good Hope. As the country has developed, scurvy has been reported in times of famine, war or change of abode among the aborigines. Another factor has been industrialization of the aborigine which demanded the transfer of large numbers of them from their normal habitat to surroundings approximating more nearly the living conditions of the white man. Divorced from a natural life that he and his ancestors have understood for centuries, the aborigine, only rarely subject to scurvy at home, developed this disease as a result of living and feeding conditions completely foreign to his original mode of life. When it is realized that more than 350,000 natives are at present employed on the Johannesburg Gold Mines alone, the magnitude of the problem is at once apparent. The Ministry of Health of the government of the Union of South Africa has issued annual reports on this subject that have stressed the liability of the South African Bantu to scurvy and suggested remedies. As a result, to ensure the health of the native worker, all work places, living quarters and kitchens are examined periodically by government inspectors. Diet is prescribed and rations are fixed by law. It is well to remember, however, that the natives will not always comply with these dietary regulations.

Under primitive conditions the basic native diet consists chiefly of maize and maize products, sour milk and kaffir beer. In summer a few vegetables, roots and wild fruits are obtainable which are missing in winter. The native is not an enthusiastic agriculturist and leaves the little maize culture and beer-brewing required to his women folk. Being a polygamist the labor shortage does not affect him. One of his sayings is: "Man, the noble, must hunt, for woman there is work." Meat is often difficult to obtain and is thus eaten rarely on special festive occasions. It is apparent that this dietary program is deficient in vitamin C and

that therefore the aborigine must live, under primitive conditions, in a precarious state of vitamin C balance. This helps to explain why scurvy is often seen among these natives in the spring when the previous kaffir maize crop was a failure. On this diet it is impossible for the body to store up a reserve of vitamin C, much less to become saturated. The processes employed for crushing maize and the subsequent cooking reduces the small amount of vitamin C present. They despise the white man's love of sweet fresh milk and use soured milk only. This is done in calabash gourds, a process which markedly reduces the vitamin content.

The vitamin C content of kaffir beer is low especially if, as is usually done, it is made from ungerminated millet. Another beer, made from germinated or sprouted millet, is much richer in vitamin C. The advantage is that not so much beer need be consumed. It can also be made in the winter when the need for vitamin C is highest. It was found in Johannesburg that monkeys could be protected against scurvy with kaffir beer but not smaller animals because they were unable to swallow enough of it. Some beers are made of wild fruits and outstanding examples of these, such as marula, have a vitamin C content comparable with orange juice. The disadvantage in these, however, is that they have an effect on the central nervous system similar to that of the drug (cannabis Indica) which causes Indians to run amuck. Intoxication accompanied by tendencies toward violence have led to serious crimes. The government has, therefore, legislated to suppress illicit beer-brewing establishments.

The primitive native, when he enters the employ of the white man, receives sufficient vitamin C to prevent scurvy because he follows essentially the diet of his employer. When he leaves white employment, he is usually unable, for lack of money, to keep up the dietary standard provided by such employment in which he is fed according to European dictates. He reverts then to maize products, sour milk and occasionally kaffir beer and will develop scurvy if he continues long enough in a European environment in which he does not eat green vegetables or fruit. The wild berries and roots of the countryside,

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his vitamin life-saver under primitive conditions, is not available to him. This would tend to be his fate in casual employment, especially in areas where meat is scarce or expensive. South African history contains various examples of scurvy outbreaks which conform to this pattern.

The Great Trek or covered wagon exodus to the North in 1838 recorded no scurvy among the native servants of the Boers because the Boers were big game hunters and their families and servants always enjoyed fresh meat. They also immediately planted vegetables and fruits whenever possible.

There are also other episodes in South African history where disturbance of the aborigine led to outbreaks of scurvy. During the Boer war, when the British had thousands of native camp followers, no scurvy was noted among them. The army surgeons of the time explained this as due to the fact that these natives were given the same rations as the British, namely, canned meat and vegetables. After the war, their employment gone, they were forced to fend for themselves and buy their own rations. They turned to maize products and sour milk with the result that at one time there were two hundred cases of scurvy in the Bloemfontein Hospital, of whom thirteen died. A similar outbreak occurred in the Bechuanaland Prison where the natives received a cereal diet. The white prisoners were spared a similar fate because of a ration of fresh meat.

Scurvy even occurred in the large groups of South African natives who were sent to France during World War I to work on the lines of communication. The medical men in charge attributed the outbreak to: inability to supplement the diet with fresh fruit and vegetables; loss of ascorbic acid value of the rations due to excessive cooking; supplying a low vitamin C content beer made from ungerminated millet. In 1933 an outbreak occurred in the copper mines of Southern Rhodesia because the natives would not conform to the white man's diet. Committed to the tribal usages of teeth-filing they readily fell a prey to the disease. Tribal prejudice to the white man's food was so great that treatment was extremely difficult. But miraculously they accepted the white man's injection. Crude orange juice, after suitable preparation, was given intravenously with excellent results.

At present scurvy still appears in the great mining centers among natives who have careful dietary supervision but who cannot adapt themselves to a new way of life. In domestic employment they receive individual attention and are given a plentiful vitamin diet. At the mines they live in compounds in huge dormitories where a full vitamin dietary program is provided. It would of course be impossible to watch each man and to compel him to consume his full ration. Thus, there are always some who cannot adapt themselves, some because of tribal dietetic rules and others because of a distaste for fresh vegetables. Sweet milk is unpopular and excessive cooking is the rule. The Johannesburg Gold Mines have to cope with from two hundred to two hundred and fifty cases of scurvy each year.

The question is often asked: Does the primitive native, with his precarious vitamin C balance enjoy worse health than the average white man in the cities? The answer is yes and no. As far as tuberculosis and the common ailments of childhood are concerned he is much worse off and does not enjoy a high degree of immunity. As to the healing of wounds and broken bones, doctors in the native territories say that the natives heal as well if not better than the whites. As to the incidence of carious teeth, the primitive South African native has been found to have less than one bad tooth per mouth. This would show that, compared with the European, the primitive native is relatively immune to dental caries. This does not hold for the native city worker. No refined sugar is consumed under primitive conditions but as the native consumption of refined sugar rises with civilized employment so too does the incidence of dental caries rise. Again the acidity of the average native stomach is very much less than that of the average European one. Peptic ulcer is rare in these people and competent authorities state that the European is seven times more susceptible. In these respects the primitive aborigine is much better off than his white counterpart.

Conquerors of Yellow Fever

(**Continued from page 819**)

forfeited if it became kown that he had deliberately infected himself with a fatal disease. The gods of business might not condone human sacrifice no matter how worthy the cause. Did he therefore at the last fateful hour withhold facts to protect his loved ones? Was this why he had told Gorgas and Carroll that he had been bitten by a stray mosquito at Las Animas? Reed believed that it was. Having produced two cases of yellow fever and knowing the danger, Lazear would surely never have allowed a mongrel mosquito to bite him and vitiate his otherwise meticulously controlled experiments. Reed confided his suspicions only to two or three colleagues and then decided to permit the record to read that Lazear had become accidentally infected while in the performance of duty. Having made his quiet and heroic gesture Lazear had sought to carry his secret to a better world. Out of respect for the unspoken wishes of their friend, Lazear's colleagues have kept that secret all these years. Reed and others carried it to their graves.

Knowing that a skeptical world would demand more proof than that afforded by these three successful inoculations Reed, Carroll and Agramonte now conceived and executed a series of brilliant experiments which were to write the final chapter of this story. On the advice of Major Kean, Reed asked General Leonard Wood, Governor General of Cuba, for money with which to set up an experimental camp and to pay what American and Spanish volunteers might be secured. To the lasting credit of General Wood who had himself been a physician, he promptly granted Reed's request and threw behind Reed all the authority of the governor's high office.

Yellow fever was to be given away free with premiums of $200. The victims could spend the money any way they wanted to—if they survived; a rather big if, considering that the mortality rate of epidemic yellow fever was about 40 per cent. But before any paid volunteers were secured two American soldiers, John R. Kissinger and John J. Moran, volunteered their services only on condition that they could do so without pay and in the interests of science. Legend has it that Major Reed, profoundly affected, rose and said, "Gentlemen, I salute you." Actually the legend is not true, but as one writer said, "If Reed didn't salute them he should have."

A specially guarded and quarantined experimental station named Camp Lazear was set up in a secluded spot a mile from Camp Columbia. There John Kissinger bared his arm for the bites of five infected mosquitoes, and promptly developed the first case of deliberately accepted and completely controlled experimental yellow fever in history. Of this Reed wrote, "In my opinion this exhibition of moral

(*Continued on page 837*)

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LIFE IS SWELL WHEN YOU KEEP WELL

"Sure Cure" for Baldness

(Continued from page 804)

age to wear it in public and experience for himself the fact that people fail to recognize it as a toupee. In many cases it is even more flattering to the wearer's appearance than his own hair was before it started to fall out. This is because nature often has a habit of bestowing unbecoming hairlines even on persons who never lose their hair. In such cases there is no recourse except through the costly and sometimes painful process of electrolysis. For the modern toupee wearer, however, science and art combine not only to make up for nature's deficiency in this respect, but also to provide the wearer with an even more perfect hairline than he may have originally possessed.

The average man gives little thought to the shape of his hairline, nor is he seldom aware of the fact that he might improve his appearance to a remarkable degree by merely changing the part in his hair or combing it in a different manner, but the modern toupee wearer automatically benefits by these advantages because of the wig maker's scientific knowledge of physiognomy. The way in which the hair is styled, the shape of the hairline, and the parting—all are important factors in their relationship to the general appearance of the face. Hair can do much toward minimizing unattractive features and accentuating attractive ones. Therefore, the creation of a perfect hairpiece must necessarily take into consideration the characteristics of the face and each individual feature.

Surprisingly enough, the new type toupees are much more difficult to make than full wigs, even though both employ the same hairlace foundation feature. The reason for this is that less hair goes into the making of a toupee than a wig; therefore, the workmanship must be more painstaking and exacting to insure against detection. Then, too, the feminine wig-wearer has a decided advantage over the male toupee wearer in that her wig can be dressed and coiffured in such a manner that the hair will cover any tell-tale lines of artificiality, whereas the short-haired toupee must be made to carefully blend into whatever fringe of side and back hair the wearer may have retained.

Proof of the high state of perfection which wigs have also attained in Hollywood is evidenced by the number of feminine movie stars who wear them in pictures, not because of necessity, but as a time-saving device to eliminate the long hours which they would otherwise have to devote in sitting under hair dryers and waiting for the hair stylists to create new coiffures with their own hair. It's much simpler and quicker to merely slip on a wig.

To mention names, Joan Bennett, Norma Shearer, Ginger Rogers, Binnie Barnes and Jeanette MacDonald are just a few who make no attempt to deny the fact that they do wear wigs in costume pictures, or for characterizations which call for any great variety of hairstyles. But most of the male stars, on the other hand, who are forced to wear toupees, naturally guard their secret as cagily as the proverbial woman of 50 who refuses to divulge her age —and not without the help of the wig makers who have a strict code of ethics in this respect. They won't reveal the names of their clients even for a price. Still, the fact that toupees are worn by certain stars is apparently common knowledge among the great masses of movie fans, even though they cannot single out these stars by name, which, in itself, is a great tribute to the skill of the wig makers when you consider that the projected image of your favorite actor or actress is magnified at least several times larger than life-size on the theater screen. How the fans have managed to wrest this secret from Hollywood's hirsuteless minority has no particular bearing on this article, but the scores of candid photos which have flooded the country in recent years have probably accounted for the positive identification of at least a few well-known stars as being bald.

Although not all of the scanty-haired celluloid heroes wear their hairpieces off the screen, the majority of them do if only to keep the fans who see them in person from disappointment and disillusionment, and—more important—to maintain their box office rating. One of the film city's professional glamor boys is said to even go so far as to regularly purchase four toupees at a time. Each one is trimmed to a different length and designed for alternate wearing to create the illusion of needing a haircut!

But of all the picture personalities in Hollywood who do wear toupees—and there are actually twenty-seven well-known names—Edgar Bergen is the only one who openly admits it. This figure, of course does not include the vast number of character actors such as Guy Kibbee, Donald Meek and Edgar Kennedy who are definitely established on the screen as bald types, yet who sometimes portray certain characterizations which require them to wear wigs or toupees.

One of the few completely bald types known to Hollywood casting directors is Buster Brodie, diminutive bit player, who capitalized on his baldness by portraying comedy character roles for more than fifteen years. Unable to obtain sufficient work a year ago because of the fact that he was so definitely typed, Brodie suddenly conceived the idea of turning to the wig makers for a solution to his problem. The transition was so effective that it made him look twenty years younger. At first the casting directors didn't even recognize him, but the idea proved so successful that he now works steadily once again, alternating between roles which call for him to appear with and without hair.

Today, there are probably upward of 200,000 steady wearers of

the familiar old-fashioned type toupee in the United States, yet there is no possible way to determine the number of bald persons. According to dermatologists, baldness is far more common among men than women. But wig makers claim that countless women are bald—just as bald as men—only few people have ever witnessed the the sight because it's much easier for a woman to hide her baldness even under a crudely fashioned wig than it is for a man to accomplish the same effect with an old-fashioned toupee.

Wig-making statistics reveal that there are approximately 150,000 hairs in a full wig; 50,000 to 75,000 in the average modern toupee. Wigs, because of the extra amount of hair required, cost from $85 to $150, and toupees range in price from about $35 to $65, depending on their size. Wigs take a week to make, but a good toupee can be turned out in four days. Color is optional, and only the finest human hair is used. Prior to the war, practically all the hair was imported from European hair marts, where the professional hair buyers made the rounds once a year to purchase the sometimes knee-length hair of peasant women who grow it especially for this purpose. Hair for wigs and toupees is never purchased in this country, but the alarming shortage caused by the war has forced the wig makers to turn to South America for new sources of supply.

In Hollywood, as well as in the rest of the country, 75 per cent of the men who wear toupees are only partially bald. This is accounted for by the fact that complete baldness is rarely evidenced among men under 50 years of age. If they haven't started to wear a toupee by the time they're 50, the chances that they ever will are slight.

The young man, or comparatively young man approaching baldness, is most likely to be interested in a toupee that looks as if it were his own hair for the reason that he inherently pays more attention to his personal appearance than the average older man. He is naturally more conscious of his baldness, and, in the majority of cases, would be more apt to decide on a toupee as the solution to his problem before losing all of his hair, or the greater part of it. The transition would then be less sudden, less shocking. He could not only retain his normal youthful appearance, but also ward off the impression that he suddenly succumbed to any vain or affected delusions of masculine rejuvenation, after appearing in his natural state of baldness for a number of years. But even so, deciding to wear a toupee, according to one Hollywood wig maker, is perhaps the most difficult decision a bald man ever makes. The hardest part of all, he explains, is to convince him that a hairpiece won't be detected as such on the head—and even when you point out a man on the street who is wearing one he is still skeptical, because it looks so realistic. Then there is always the fear that the hairpiece might blow off in a high wind. But this is entirely unwarranted. The modern toupee is firmly affixed to the head with spirit gum on the hairlace front and a piece of toupee tape in back so that it can't possibly slip, slide, or blow off. Once on, you comb it, part it and handle it exactly like your own hair.

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QUESTIONS AND *Answers*

Complexion Brushes

To the Editor:—Do soft complexion brushes tend to clean the skin better than an ordinary wash cloth?

H. C., Pennsylvania.

Answer.—There is no particular advantage in the use of a soft complexion brush as compared with that of an ordinary wash cloth for the average skin. In case of oily skin or acne, the use of a soft complexion brush is commonly recommended. The results with one or the other are, of course, largely dependent on the amount of time and energy which the person expends in employing them.

"Shin Splints"

To the Editor:—What are shin splinters? It comes from track I believe.

G. C., Ohio.

Answer.—There is no condition known as "shin splinters" associated with athletics. "Shin splints" is a term frequently used to describe a condition common among track athletes. This is not a scientific term but has simply grown up as a matter of athletic usage.

It is loosely used to describe conditions in the lower legs which would be known medically as myositis, myalgia, torn muscle fibers, torn muscle or tendon sheath, or muscle bone attachments of varying degrees in the region of the largest lower leg bone, anatomically known as the tibia, commonly known as the shin bone. Small tears of the periosteum (bone covering) at the point of strained or torn muscle attachment may cause a sore place on the shin bone occasionally with a small area of elevation or depression.

The name shin splints describes the treatment more accurately than the condition. Adhesive tape splinting of the shin area properly applied is most commonly used as a treatment.

In the early spring period of training, sometimes under other than the best temperature and weather conditions, track athletes run a good deal on their toes. This, and too early training speed work, puts a particularly hard strain on the muscles of the legs and "shin splints" are occasionally experienced.

The condition is also encountered after periods of running on a hard board or hard dirt track. Care in taking easy adequate gradual "warmups" before straining practice periods, particularly in cold weather, tends to prevent the development of the condition.

Breads

To the Editor:—Are pumpernickel, corn and rye breads generally made of whole grains and do they retain the desirable vitamin content as does whole-wheat bread?

L. F., New York.

Answer.—The only flour used in true pumpernickel bread is a whole (dark) rye. This bread would be expected to have a vitamin B_1 (thiamine) content similar to that of whole-wheat bread. Rye bread as customarily made in the United States usually contains a mixture of rye flour and white patent flour. The vitamin content would depend on the proportion of rye flour used and also on whether or not the white flour had been "enriched" according to present government standards.

The vitamin content of corn bread would depend on whether yellow or white cornmeal was used and also on whether or not the meal had been degerminated. Yellow cornmeal has a significant vitamin A content while white cornmeal is practically devoid of this vitamin. Cornmeal containing the germ may be expected to be somewhat richer in the factors of the vitamin B complex than meal which has been degerminated.

Bruises

To the Editor:—What causes some people to bruise more easily than others?

R. S., Minnesota.

Answer.—A bruise is the swelling and discoloration that occurs when the body receives a sufficiently heavy pressure or physical blow. The force crushes and ruptures blood and lymph vessels in the subcutaneous tissues and sometimes even in the muscles themselves. The injury to the vessels may only let out the fluid part of the blood, or it may be sufficient to let the red blood cells escape also. The result is an almost immediate swelling and later, if corpuscles are present, the hemoglobin which they contain becomes dark and finally disappears through a series of color changes from blackish green to yellow. The ease with which one bruises depends on the protection that the blood vessels have and on their own physical resistance or "fragility." The hands and feet can receive blows that would cause injury elsewhere but they are protected by the thickness and firmness

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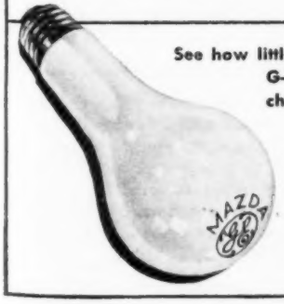

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of the skin. The fragility or strain that the blood vessels can stand without rupture varies greatly with each person. It depends in part on the strength of these structures which we inherit. It also depends on nutritional conditions. In a deficiency of vitamin C these vessels are much more easily ruptured, a condition that is characteristic of the blood vessels of the gums in scurvy. There are also other factors which determine the strength of capillaries and small arteries but they are not all well known. Susceptibility to bruises may thus depend on factors that harden and thicken the skin, hereditary factors, certain known nutritional disturbances and other conditions not yet well known.

Sunlamps for Diabetics

To the Editor:—I have been informed that ultra-violet light is contraindicated in diabetes.

I don't want to do anything that will injure my condition further. What unfavorable reactions can one expect when taking sunbaths when diabetes exists?

M. J., California.

Answer.—There is no apparent reason why ultra-violet light should cause any more damage or be any more helpful to a diabetic than to other persons. Either direct sunlight or artificial sun lamps may be used to such an excess that they will cause typical sunburn. This would be uncomfortable and possibly dangerous for any person, whether diabetic or not.

Angina Pectoris

To the Editor:—There appeared in one of the daily newspapers an article describing a belt which has been perfected by a doctor, and which it was claimed gives relief from pain in angina pectoris cases. I am anxious to obtain full particulars about the belt, especially the name of the manufacturer and the cost.

F. S., New York.

Answer.—The pain in angina pectoris is brought on by any condition which increases the demand of the heart for more oxygen than can be supplied at the time. There is generally some fault in one or more of the vessels in the heart which carries the blood supply to the heart muscle. In a high percentage of cases, the subject is a man in middle life or beyond. His diaphragm is usually low because of bad posture resulting from too much weight, especially in the midsection or because of a dropping of all the abdominal organs. This interferes with a normal return of the blood to the heart during respiration.

A properly fitted strong but elastic supporting abdominal belt will prevent the attacks of pain in many patients. It must be prescribed and fitted by the physician and adjusted as the waistline is reduced by dietary measures. The Kerr-Lagen belt which has been found most suitable is made by a number of manufacturers who have agencies in most cities.

Any other belt which is strong and provides elastic sections may serve the same purpose. The cost should not exceed $10 retail. Patients, entitled to care in a charity clinic can secure the belt at manufacturer's cost price.

Hearing

To the Editor:—I am 28 years old and mother of a 10½ year old boy. Shortly after my son was born I began to lose my hearing. It is now approximately 30 per cent gone. The doctors call it otosclerosis, and advise me to never have any more children. Has medical science found a safe way to determine if another child would cause me to lose my hearing completely?

C. G. B., Ohio.

Answer.—You have been well advised. It has been observed that the progressive loss of hearing in otosclerosis is accelerated in some cases by pregnancy.

There is no known method of predicting how much hearing may be lost during the pregnancy.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Conquerors of Yellow Fever

(Continued from page 829)

courage has never been surpassed in the annals of the army of the United States."

Then two small, specially constructed wooden buildings were erected. The first was called Building Number One or the "Infected Clothing and Bedding Building." It comprised one room, 14 x 20 feet, had only two small windows and was heated by a stove to a tropical temperature. Three cots were set up and into this sweltering room were brought the soiled and foul-smelling bed clothes of yellow fever victims. Night after night Dr. Robert Cooke and other soldier-volunteers (Folk, Jernegan, Hanberry, Weatherwalks, Hildebrand and England) hung these offensive clothes around the walls and on their beds, and then lay down to try to sleep on pillows and sheets soiled with blood and vomitus. Stomachs rebelled, but spirits remained firm and not one of these volunteers developed yellow fever, simply because there were no mosquitoes in the room. Thus was exploded the notion that "fomites" carried the disease.

A second building of similar size, Building Number Two or the "Infected Mosquito Building," was divided into two parts separated merely by a wire screen. On a cot in one side of this room Mr. John Moran exposed his body to the bites of fifteen infected mosquitoes let loose in the room. He was in the room only a little over an hour in all, but promptly developed yellow fever, while other volunteers who stayed long hours on the other side of the screen, where there were no mosquitoes, remained well.

In the bodies of twelve more American and Spanish volunteers (Benigno, Fernandez, Presedo, Martinez, Jernegan, Olson, Folk, Forbes, Andrus, West, Hanberry and Sonntag) yellow fever was produced at will either through the medium of mosquito bites or by injections of infected blood or serum. Their problem solved after just eight months of work, the Board disbanded Camp

(Continued on page 843)

"To Thine Own Self Be True . . ."

It is an axiom that women desire to look lovely and to smell sweet. That is why there is a natural demand for cosmetics and perfumes. There is no standard for loveliness. No two women are identically lovely, not even identical twins. The difference is in their individuality. The woman who trys to look like somebody else sacrifices her individuality and usually conceals rather than reveals her true charm. "To thine own self be true . . ." is excellent advice in more ways than one, for true charm is in looking, acting, and being *yourself*. The desire to make that self as attractive, as captivating, as possible is not a vanity; it is as natural as the unfolding of a rose. Cosmetics, gowns, hair styles, hats, perfumes — all of these complements to loveliness should be carefully selected to emphasize, to dramatize, if you like, your individuality, with view to creating the loveliest impression of your charm. . . . Luzier's Fine Cosmetics & Perfumes are purveyed by cosmetic consultants who assist you with the selection of suitable beauty aids and show you how to apply them to create the loveliest impression of your charm. A card addressed to us will put you in touch with the distributor of our products in your community.

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—by a doctor's wife

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Building Military Morale

(*Continued from page 795*)

order to provide a wholesome leisure-time atmosphere for the enlisted men. The work of this committee has been of great value in developing public morale and in directing civilian effort into channels which will best serve to increase the morale of the army.

In building military morale we must always remember that war is a grim business and that our soldiers must be totally prepared. They must be hardened to the rigors of arduous campaigns, they must be seasoned under proper discipline, they must be instructed in the appropriate elements of leadership, they must be imbued with the will to fight for their country even against tremendous odds. These, then, comprise the elements of military morale: training, discipline, leadership, and the will to win. This is the essential work of the Morale Branch.

History tells us that numbers alone mean nothing in military engagements. At Marathon a handful of Greek soldiers numbering less than ten thousand men is said to have defeated a huge Persian force. The Greeks had the will to win. At Chalons the Romans defeated the forces of Attila the Hun. The Huns lost the will to win as a result of a sorcerer's prophesy that Attila would lose. Coming down to the Twentieth Century we find the retreating French and British in the First Battle of the Marne defeating the hitherto victorious and powerful German forces. The Allied will to win was embodied in the famous message of Foch to Joffre: "My right has been rolled up; my left has been driven back; my center has been smashed. I have ordered an advance from all directions."

But our soldiers will have more than the will to win; they will have the ability to win. They will be toughened and trained in body and mind into fighting men, with high qualities of endurance, initiative and fighting efficiency; with implicit faith in their commanders, and a zest for cooperation with their fellow soldiers and other fighting units.

Of course there is a lighter side to the work of the Morale Branch. Relaxation is important to avoid the overtraining that imperils fighting efficiency, and this relaxation is supplied through the work of two of the six divisions comprising the Morale Branch. The Welfare and Recreation Division, and the Service Division, handle matters pertaining to civilian welfare agencies and civilian communities, guest houses, service clubs, hostesses and librarians, insurance, athletics, amateur dramatics, motion picture theaters, leave areas, songs and music, and libraries.

Athletic activity stands high in the work of the Morale Branch for no other activity combines so many factors which make for good military morale.

The primary source of entertainment has been, and will continue to be, motion picture programs. To date nearly 300 theaters in posts and camps provide facilities for showing pictures to approximately 226,000 men at a single showing.

Amateur theatricals have been encouraged and have proved highly successful. A system of mobile units has been inaugurated by the Citizens Committee for the Army and Navy, Inc., to provide entertainment with professional talent.

The social life within military camps has been the subject of extensive thought and preparation. The outstanding need of a place to gather, to read, to hold dances and entertain friends has been met by the construction of 116 Service Clubs, the great majority with a library and a cafeteria. Provision in the form of 97 guest houses has been made to furnish simple overnight accommodations to families and friends who may visit the soldier in camp. Due recognition has been given the need of feminine influence in the guidance of morale activities by the employment of 327 hostesses and 115 librarians.

One of the most interesting activities of the Morale Branch has been the weekend recreational areas. These are tent camps established near metropolitan areas to provide soldiers with a place to spend a full weekend in enjoying the normal pleasures available in an average American community. No reveille, no duty call, no formations are found in these recreational areas and from Friday noon to Sunday evening the soldier's time is his own.

Athletic equipment, city maps and information on events in the neighboring city, papers, magazines and books—all are available to the visiting soldier. He sleeps in a comfortable bed in a floored tent. No charge is made for the use of the facilities provided except that the soldier must pay for his meals. These are provided at low cost by a concessionaire, averaging 15 to 30 cents per meal, or a total approximating $2 for the entire weekend.

At present 16 of these centers are in operation with a total of 32 authorized in 14 states. In full operation they will accommodate about 20,000 men each weekend.

The purpose of today's recreational areas is not merely to give the soldier a good time. It has a definite morale building objective. Soldiers must of necessity go through a hard training schedule. Under pressure from day to day they are likely to go stale just like athletes from overtraining. The establishment of recreational areas makes it possible for them to break away from their everyday surroundings, make new acquaintances and mingle with the civilian population. They have an opportunity to experience the friendliness and hospitality of citizens in nearby towns. They return to their own camp with more enthusiasm for their tasks, a new zest for their military duties, and a renewed faith in their country.

Morale activity is limitless and everything that has a physical, physiologic or psychologic effect on the soldier comes under this head. No army can be successful in its morale program without the help of the citizen at home. If the soldier has the active support and cooperation of the citizen at home he will be able to train better and to fight harder when the time comes to defend our country.

To answer girls' questions the modern way—

TWO NEW FREE BOOKLETS

"What is menstruation?"
"Can I go in for sports?"
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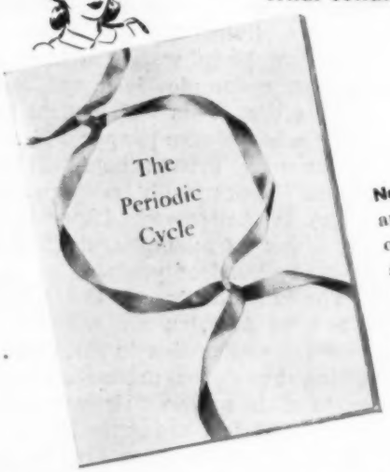
New! For Younger Girls—"Nancy's Biggest Day at Camp" is a story version of the simple facts of menstruation—told in a way that young girls like to read. It's bright and interesting—yet scientifically accurate. This booklet replaces "What a Trained Nurse Wrote to Her Young Sister" in the Modess Program of Menstrual Education. Order as many copies as you need so that each girl may have one to keep.

"Why is regularity important?"
"What is the 'periodic cycle'?"
"What conditions require a doctor's advice?"



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Living with Heart Disease: II

(*Continued from page 808*)

from coronary artery disease his final words: ". . . the knowledge that patients have lived for as long as twenty years after the first attack should encourage both the patient and the doctor to view the future with equanimity." As published in a previous article (L. F. Bishop Jr.), "probably the most important advance in the past decade is the change in our concept of the prognosis of coronary thrombosis. Of what avail are improvements in diagnostic procedures and therapeutic measures if we do not reap a harvest in a better outlook for the patient?"

What has heredity, ancestry, to do with longevity in heart disease? Apparently a great deal. For instance, longevity in general is more frequently observed among those in comfortable circumstances than among the poor, and this is also often true in heart disease. Some say this is not altogether due to the mode of living, but to inherited characteristics. You see, heart disease may often be sired by apoplexy. We may find when our hearts start racing that perhaps one of our parents' hearts may too have set a rapid cardiac pace. It is not whether a person has an ancestry of longevity so much as whether he inherits the constitutional stamina of his ancestors, giving him ability to withstand disease, the impacts of life's varied blows and the inroads of senility. Even given a strong constitution unless sane living is pursued, life may be shortened by its owner in many ways. We all preach the study of first aid for the prevention of accidents, but how seldom do we think of first aid in the prevention of the accidents of heart disease?

One family that seems typical of longevity, with the accent on heart disease, is composed of three members: the oldest is the mother aged 99, the youngest is her daughter, 65. The daughter takes delight in preparing nourishing cookery, and skilfully prepared food which may result in good nutrition is no small part of health and long years. The 99 year old mother even delights in a cocktail before dinner. Senescence—old age—has never worried her. Her immediate junior is her son-in-law who is 78. He lives a life that would put to shame a man of 45. Yet he has had for some years a blocking of his heart beat, but he carries on with a job, a garden, drives his car, and three pet cats softly leaping around while away leisure hours given to reading, writing for the radio or an occasional snooze. You see he is never idle—and never worries about next year!

The prime rule which seems to contribute to longevity in general, as well as in heart disease, is moderation. Add to moderation, regularity in eating, drinking and sleeping and you have the main factors necessary to the pursuit of long years. Incidentally, moderation in living usually tends to moderate body weight which, as insurance statistics bear out, leads to long life. It is well known that those who observe proper and sane habits may even accomplish immense labors with no apparent injury to themselves. Hippocrates, the father of medicine, lived more than one hundred years.

The Presidents of the United States of America are not able to practice moderation in the years to which they devote themselves to the cares of the nation. Their life span since 1900 has been steadily going down. From the year 1789 to 1900 twenty-four Presidents died at the average age of 69. In the years 1900 to 1929 five died at the average age of 63! So you see, six years have been lopped off the expectation of the chief executives in the last 30 years. The busy exacting life that such a man leads has led to a steadily decreasing life span when by contrast since 1900 have our greatest strides been made in increasing the life span for the rest of us. The Supreme Court duties appear to curtail life to a lesser degree. The "nine old men" may be philosophers—and philosophy means "love of wisdom."

Doctors are in the dilemma of not being able to pracatice what they preach—moderation. They too, like the Presidents, pay the price by curtailment of their life spans. In the last few years attention has been called in the medical press to the large number of physicians who succumb to heart disease in middle life. Yet they above all people know the dangers to heart disease that lurk in sudden strain, mental and physical, and continued physical forcing. However, there are exceptions here, too, despite the fact that medical men live arduous lives with irregular hours made necessary by shouldering the aches and pains of their fellowmen. A notable exception is a doctor of 76. He possesses an eager mind, a perspective down a wide vista of men and affairs, and yet he has lived many years with a heart murmur which he treats lightly. Every time he has a birthday he says he is a year younger—he puts the landmarks in reverse. Any day his first challenge to youth or middle age will unfailingly be—"What's new?" Each day to him is an adventure in living. He is a man who has examined thousands of hearts, as well as his own. He knows his own heart like a mother knows a beloved child; he takes the bad with the good. He has wisely written about heart murmurs many years ago. He has drawn the dividing line between a benign murmur and those that are not. Many have profited by this line of demarcation between the murmur that softly blows and the one with a thrilling purr, whether there is an enlargement of the heart or not. Naturally, the treatment of either kind is up to the doctor.

But by our presidents and doctors can we easily see that such careers may lead to success but not to our aim: longevity with heart disease.

While the vital statistics of the Mormons seems ahead in the race

for senility, as compared to the rest of the United States, Mr. Joseph J. Cannon comments on heart trouble among his people: "My memory is that heart trouble was much less frequent in early days than it is now, due doubtless to the simpler life, less worry, travel by horseback and buggy instead of by automobile and more physical work in the open air." But take the charts as they stand for a brief of the temperate way of life to reach advanced age.

The simplicity of the great has been written about on many occasions. It would seem in tales of great men, simplicity of diet was paramount. Clemenceau "ate the food that he liked, and it agreed with him." The "elder John D. Rockefeller never permitted great wealth to change the habits of his humble youth when he clerked in a store. His diet was simple long before advancing years imposed a spartan regime. He always conserved himself just as he conserved his money. In his active years he took a ten-minute nap on an old leather couch at 26 Broadway in his New York office, with a newspaper over his face." Herbivorous Hitler, though only in the middle years of his stormy striding, looks to "his self-preservation in confining himself to a vegetarian diet and abstinence from alcohol and tobacco." Another dictator also dictates a careful diet for himself. "Mussolini goes Hitler one better in the matter of strict diet. For the past eight years he has lived principally on milk and fruit with an occasional piece of fish for lunch."

In answer to an inquiry concerning the proper diet for persons of 60 years of age and over the November 1940 issue of HYGEIA states: "For old age, as well as youth, the basis of an adequate diet is the same. First, sufficient calories to keep the weight normal; second, adequate protein; third, adequate amounts of essential vitamins and minerals. Two glasses of milk or buttermilk, one egg or equivalent, and one serving of meat or fish daily is a good foundation on which to build. Other foods which should be eaten daily are two servings of fruit, one of which must be citrus fruit or tomato juice, two servings of vegetables, preferably one raw and one cooked, two serving of whole grain cereal or of whole grain bread, one serving of potato,

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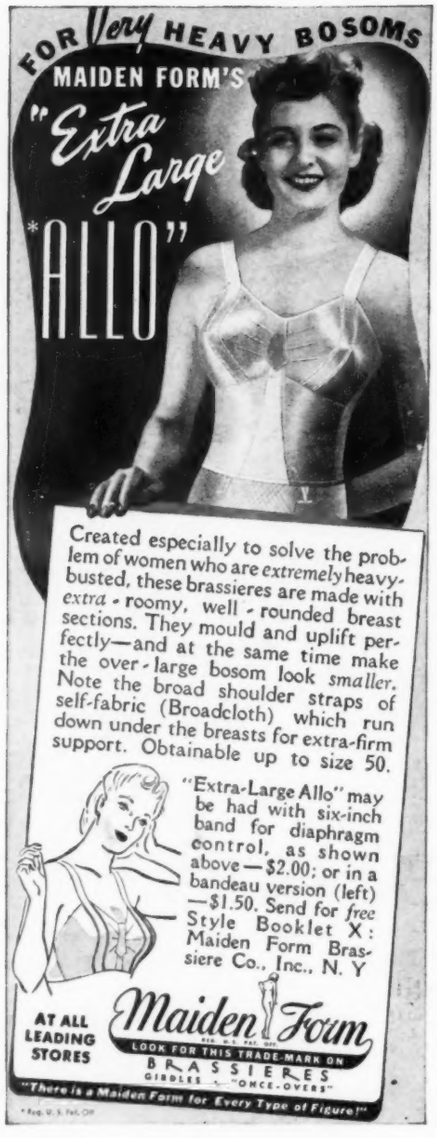
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and one ounce of butter. There is no scientific evidence that any of these "protective" foods are injurious in any way for the aged. They are probably as important in old age as in the middle years."

This may well serve as sound advice for dietary common sense rules in those who have attained longevity with heart disease. But, naturally, the older patient is guided by his physician in dietary decisions as well as in everything else. A particular type of heart disease may demand a particular diet.

It would seem that diet and exercise are important in the quest for longevity. Lord Bacon was an ardent student of longevity, and he felt it essential to long life to never let the body remain long in one position. Take the doctor of 80, who has been under a heart specialist's care for fourteen years. He naturally, at 80, has some arteriosclerosis and he also has some enlargement of his heart, but he looks young and walks young. He never misses his two mile walk each day. Another man of 75, a merchant, with some heart involvement, walks four miles every day, two in the morning and two in the afternoon, weather permitting. He says "if the wind blows strong I walk backward for a while—people laugh—they don't know whether I'm coming or going."

You may say why do people with heart disease want to live long? Well, they do. The war may even be a shock absorber to an aimless cardiac neurotic. Sometimes the broken bodies and minds of others that lurk in the aftermath of war help to minimize the woes of a person with nerves and heart disease. War that makes such a hustle and bustle in civilian life may serve to furnish an idle, querulous cardiac with something vital to do; it may shunt him into rendering some real service to mankind.

Half the invalids with heart disease could salvage a contented life if they could achieve the right philosophy. But the idea of heart disease impregnates their days and their nights with fear. Why not enjoy the day and not worry how many yearly landmarks may be stretching ahead? Thomas Mann puts these pregnant words into Goethe's mouth: "Time, time, give us time—you act as though we all lived one hundred and twenty years!"

If at 40 one has a heart that needs a little coaxing, is not the bait of "forty years after forty" more alluring than the deadening fear of not waking up tomorrow? How great a triumph to have achieved three score years and ten with the handicap of a weak heart. Many lives are divided into "G" decades: from one to 10—growing, from 10 to 20—grafting (ideas), from 20 to 30—gorging (life), from 30 to 40—grappling, and from 40 on—grouching. Substitute the growing of the early years for the grouching of maturity, and perhaps we shall find the quintescence of life—an elixir of longevity.

Philosophers are said to live long. Abstract thinking perhaps creates a gap between a man and his aches and pains. One often thinks of the joke about the man who "was so generous it was thought he had an enlarged heart." This quality of generosity, or the ability just to pass things on, is a good one to cultivate in heart disease. Don't even try to reminisce too much so that the mind may be kept clear for new things.

People rich in years and happiness, even with heart disease, never say, "What's the use?" Each little doing seems important, every minute is like a day. The radio, dinner, gardening, conversation, all are important. Why not? Age cherishes happy moments more than youth for there is the realization that the supply of time is not inexhaustible. One remembers the little girl who wrote, "When I say my prayers I ask God to bless all the old men with canes and all the old ladies with no pocketbooks." She might well have added a prayer for the crutch of philosophy for those past middle life with heart disease.

The choice is up to you with heart disease, whether to have a short life and a merry one, or a long life and a cheery one. Why not be one of the many exceptions and try to live three score years and ten with heart disease?

Walt Whitman gives us the real description of the beautiful compound of years of grace in "To Old Age": "I see in you the estuary that enlarges and spreads itself grandly as it pours in the great sea."

Conquerors of Yellow Fever

(Continued from page 837)

Lazear on March 1, 1901. Now armed with precise knowledge Gorgas within three months freed Havana of its age old scourge. Later, with this and other knowledge, he made safe the Isthmus of Panama for passage of the commerce of the world.

This then is the story of the conquerors of yellow fever. In Mr. Cornwell's painting the team who won this victory is portrayed: Finlay, the great Cuban physician who for nineteen years dreamed the plan of battle, Walter Reed, the brilliant leader who planned the active campaign and assumed command in the heat of battle, and Lazear, Agramonte and Carroll—the rest of the Board who nobly carried out their respective duties even when it meant death. Here too, in the painting, represented by the soldiers Kissinger, Moran and Jernegan, by one of the Spanish volunteers and by Dr. Cooke, are those whose bodies bore the brunt of the enemy's attack. And here represented by General Wood, Major Kean, Lieutenant Truby and Dr. Ames are loyal colleagues who smoothed the way with encouragement and help. As a matter of fact this whole group of men were never actually together at any one time; to that extent this painting is artistic rather than factual. But these men were comrades in spirit and purpose, and in the records of history their names have become inseparable.

And what became of their battlefield, Camp Lazear? Reverting to more commonplace uses it was lost for forty years until Mr. John Moran, Mr. Luis Pogolotti (of Havana) and I hunted for it together and rediscovered it in April 1941. Building Number Two is gone, but Building Number One still stands, creaking with age and sleeping in the Cuban sun; at its back is an encroaching quarry, in front a field of corn.

This address was given by Dr. Hench at Cleveland, O., June 2, 1941, at the unveiling of Dean Cornwell's painting, "Conquerors of Yellow Fever."

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Enlisted Specialists

(*Continued from page 800*)

larger hospitals in the country. In the clinical sections a student is taught how to make a blood test, a gastric analysis and bacteriologic examinations and the many other procedures necessary for a laboratory student to know in this work. Here, too, the students learn about the common fly as well as the many intestinal parasites that cause people so much trouble today.

For example, in the study of parasites a student is taught not only the human blood picture of malaria, but as well he is taught the identification of those species of mosquito that are carriers of malaria.

Many of the laboratory ingredients are prepared by the students so that in an emergency they will never have to rely on supply sources that may not always be available.

In this medical-surgical section the necessary routine ward work is one of the first things taught to the students: bed making, ward cleaning, serving trays from the diet kitchen, giving hyperdermic injections and checking government property.

Since, in the past World War, many of our boys often suffered needlessly through lack of medical care, these students are being given valuable instruction in some of the duties they might have to perform on a battlefield: the use of splints in splinting fractures, the application of first-aid dressings and the giving of hyperdermic injections. They are taught the location of various bones of the body, the principal blood vessels and nerves of other body structures. For, unless a man knows the location of principal blood vessels he can't intelligently apply tourniquets.

In the medical-surgical section a great deal of the practical training is given in the wards and laboratory of the army's famous Fitzsimons General Hospital, located close to this army medical technician school. In fact, all schools of this type in the United States have been established in the vicinity of general hospitals for this reason.

Under the chief nurses of Fitzsimons hospital staff, and the noncommissioned officers assigned to the school, the principle and practice of nursing are taught to the medical-surgical students: hygiene, ward and camp sanitation, various methods of waste disposal and the means employed for proper ventilation of barracks and hospital wards. Any man failing to obtain a passing grade in this section is returned to the organization from which he was sent.

Ascending the stairs to the second floor, Captain Wherrett and I visited the cheerful classroom which is similar to other classrooms in other sections. Facing me was a group of pupils intently watching the instructor as he talked to them about a large, human arm drawn on the blackboard.

"I was just explaining to the class how to stop an arterial hemorrhage, or, in other words, how pressure has to be applied to stop an artery from bleeding," the instructor remarked as we watched him momentarily from the doorway.

In addition to the enlisted students, fifty Reserve Officers are detailed to the school each month to attend one month refresher courses in administration pertaining to their particular duty assignment—to which they are sent on completion of the training.

What a busy place the general mess hall is at mealtime! Here 500 men can be fed every hour. I sat with Staff Sergeant W. Johnson, watching the young men laughing and talking, impatiently waiting their turns in line. I almost felt as if I were in a large public cafeteria. At all times huge steam tables keep the tastily arrayed foods hot.

"We boys sure eat a lot in the army, and, boy—oh—boy, do they feed us good!" a tall, red-headed chap next to me remarked.

This National Defense Medical School is similar to other army

schools over the country in that the students are required to adhere to a strict routine. Reveille is at 6 a. m., followed by fifteen minutes of setting-up exercises, which work up an appetite for breakfast at 6:30 a. m. Classes run from 8 a. m. to 11:30 in the morning and from 1 p. m. to 3:55 in the afternoon. All students assemble at 4 p. m. on the parade grounds for forty-five minutes of drill. At 5 p. m. supper is served, with taps sounding at 11 p. m.

Recreation hours are crammed with bowling, playing baseball, playing cards, and seeing movies shown three times a week in the large recreation hall. Frequently, the charming hostess of the school arranges evening dances and sees to it that there are plenty of pretty girls on hand for the boys to dance with. Too, every student is free from Saturday noon until Sunday evening. Usually that means a trip to Denver on the large Fitzsimons Hospital bus.

Visitors at Denver's National Defense Army Medical School can easily see why the United States War Department firmly believes that the best way to provide medical technicians in the army camps, or on the battlefield, is to train some of our boys previously in army medical technician schools. In fact, I feel like Captain Wherrett does, who said, "If circumstances arise in which the men in the training program now in session are required for national defense, our army, qualified with the fine training it is having at this time, will be ready to accomplish its mission."

HOSPITALIZATION ADVISABLE FOR HOOKWORM TREATMENT

All patients who are treated with tetrachlorethylene, an effective drug for clearing the system of hookworms, even in doses smaller than are usual, should be hospitalized or otherwise kept under close surveillance, J. H. Sandground, Indianapolis, advises in *The Journal of the American Medical Association.* He reports 2 cases in which the patients went into a profound coma or sleep after taking the drug. However, he says that for want of a better drug, these cases should not discourage the use of tetrachlorethylene.

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YOUR CHILD'S COLDS

By HERMAN M. JAHR

TO MANY PEOPLE the coming of autumn is synonymous with the return and repetition of "the common cold." There are thousands of households in every large city where, during the winter months, the children particularly are practically never free from sneezing, running noses and coughs. These usually begin during late October when the chilly weather sets in and last until late spring when the temperatures become agreeable.

In the strict sense of the word, many of these symptoms are not the result of infections of the upper respiratory tract but the reactions of an oversensitive lining of the breathing apparatus. Many of these children may be classed as allergic, reacting to almost any irritant ranging from cool air through the gamut of all particles with which the air in the vicinity is laden. In many others these annoying coughs and running noses are the result of chronic infections of the nasal sinuses which become troublesome as a result of any irritation of the mucous membrane of the nose.

In the acute upper respiratory infection which involves the nose, throat and the upper bronchial passages, the bacterial nature of this ubiquitous condition is not constant. The organisms vary in type and virulence. Usually a mixture of several varieties of bacteria is responsible. Some of these are ordinary inhabitants of the nose and throat. They become active by virtue of a reduced resistance on the part of the host, or they may gain qualitative and quantitative strength by virtue of exposure of their victim to what appears to be a filterable virus.

Under ordinary conditions the average upper respiratory infection goes through a series of stages approximately as follows:

The stage of invasion may occur within a few hours after exposure. There is congestion and inflammation of the nose, throat and trachea. This congestion lasts one or two days and produces an irritation of the cells lining these structures.

The second stage is that of secretion. Large quantities of thin mucous and bacterial remnants, together with organic material from the tissues are poured out from the nose. This is the most contagious period. It lasts from twenty-four to seventy-two hours.

The third stage represents a decline in the inflammation. The discharge beeomes thicker with gradual liquifaction and expulsion, and ultimate restoration of smoothness of surface and normalcy of function. This, in short, is the natural history of the average uncomplicated cold. The whole cycle lasts from seven to ten days.

A robust person may at times overcome the process during the beginning of the first stage. On the other hand, a virulent infection even in a hitherto healthy person may under adverse circumstances spread to other parts of the body; or it may extend to the ears and mastoids or downward into the lungs. However, complications are not frequent with the average run of "cold" in the average healthy person.

A question frequently asked by mothers is "Why does my child have so many colds?" It is true that some children who are otherwise in good physical condition often suffer from a repetition of upper respiratory infections. Many parents erroneously attribute this to poor resistance of the child. While there are unquestionably varying degrees of susceptibility to certain infections among children,

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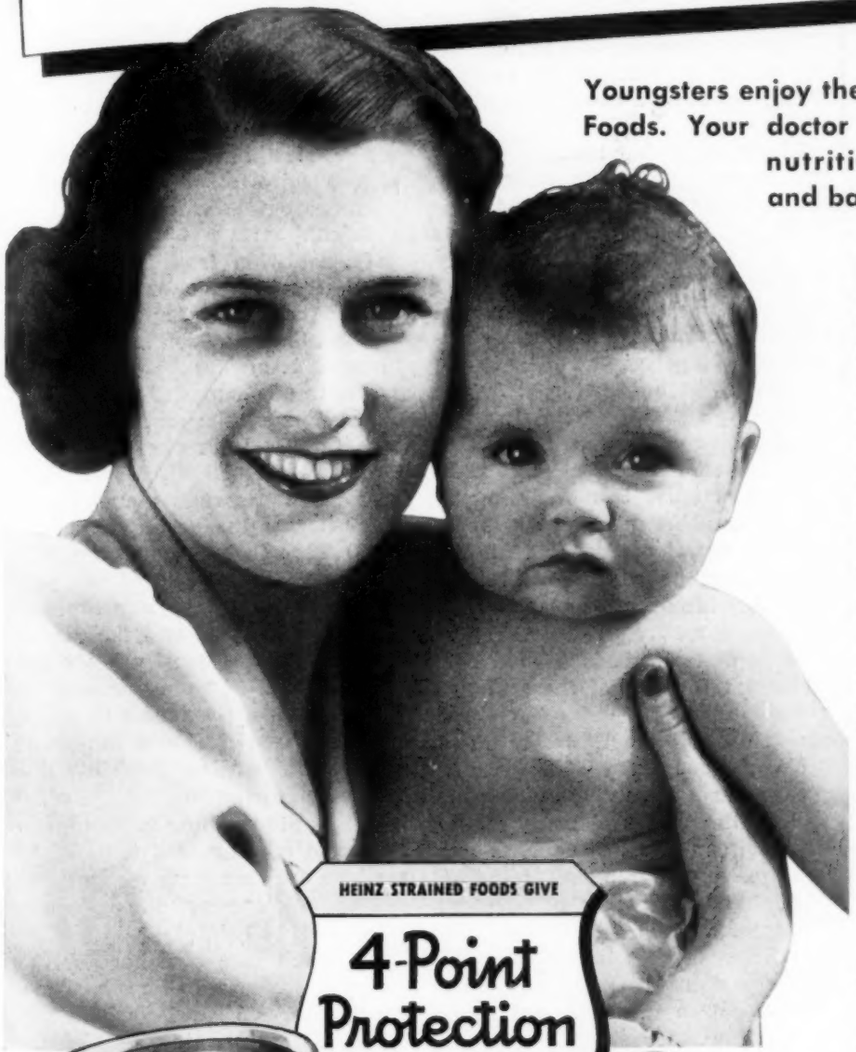

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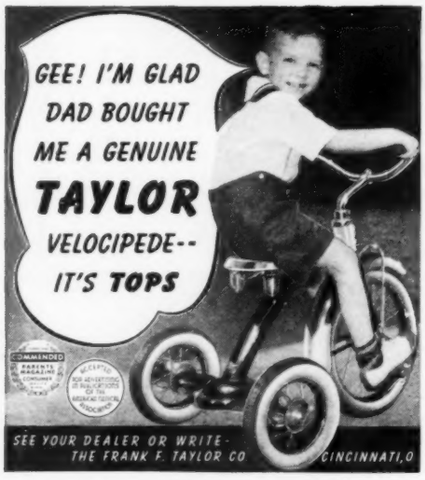

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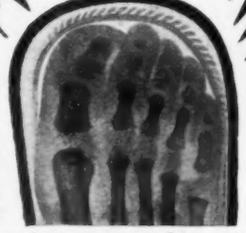
DANGEROUS TO BABY FEET



The X-Ray shows how outgrown shoes twist and warp delicate, undeveloped infant feet. It's best to buy inexpensive shoes *and get a larger size often.*

All over America there are baby doctors who recommend WEE WALKER shoes because they are soft, flexible, roomy, and correctly shaped to give baby "barefoot" freedom, and yet are very low in price. See WEE WALKERS... compare them with shoes priced much higher. Infants' Wear Department of the following *low-profit* stores:

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it is well recognized that with the average youngster suffering from a successive series of colds, repeated exposure is a much stronger factor than lessened resistance. This belief is based on the fact that most of these children seem to throw off the infection without any consequences, and at the end of the season they emerge in good health. The common cold, it should be recalled, is the most contagious of all known diseases, and the crowding which is common in modern living serves as a constant medium of exposure.

There is much unnecessary confusion among parents concerning the influence of tonsils and adenoids on the frequency of upper respiratory infections. When the tonsils and adenoids are infected they naturally act as bacterial breeding stations periodically releasing both germs and their toxins to invade the adjacent parts. The removal of such diseased tissue may be expected to diminish the incidence of colds. The alleviation of any infectious load offers the youngster a better chance to build up his general resistance to infections. But the removal of tonsils and adenoids on mere suspicion or on hope alone frequently results in disappointment. It is a good rule to leave the status of these tissues to the interpretation of a competent physician. He will arrive at a decision by a study of the whole child and not merely by the appearance of the tonsils alone.

The effectiveness of cold vaccine as a preventive remains doubtful. The inherent difficulty in adapting a specific vaccine lies in the nonspecificity of the infection itself. The organisms present vary from one season to the next and there is no constancy, even during a given season as to what bacterial type is the chief offender. If to this difficulty alone is added the virus factor in the production of the cold, the vaccine efficiency becomes even more remote. Nevertheless, there are numerous reliable reports of large series of cases where vaccines appeared beneficial. Here again it is best to depend on the judgment of the family physician.

While general rules may be followed regarding the needs of the child suffering from an upper respiratory infection, no parent is justified in tampering with a condition which is full of serious possibilities. The symptoms of a cold may resemble the onset of almost any disease of childhood. There is hardly a practicing physician who has not encountered some grave illness which had been treated as a cold for days or even weeks. Valuable time wasted on home remedies frequently robs the youngster of his best chances for early recovery. Poliomyelitis, pneumonia, meningitis and many other important diseases start with symptoms of a "cold."

The safest and the most economic procedure to follow at the onset of what parents ordinarily interpret as a cold is:

(1) Isolation from others. Any nasal discharge should be considered contagious, and regardless of what the condition may turn out to be it is always best to prevent exposure of others.

(2) The child should be put to bed if there is any suspicion that he has fever. The time spent resting will conserve his energy and help shorten the period of illness.

(3) The doctor should be notified. Certain seasons of the year are characterized by a prevalence of certain diseases and the experienced physician usually has a fair idea of what is "going around" in a locality at a particular time. At any rate, he will be able to tell you what to do until he sees the child.

The following list of "don'ts," based on observations of the almost universal mistreatment imposed by mothers on youngsters who are suspected of "coming down with a cold," will be helpful.

(1) Don't give a cathartic without the advice of the physician. No amount of bowel purging will "drive" the infection out of the upper respiratory tract. And never, never give a cathartic on your own initiative to a child with abdominal pain. If there is no obstruction or inflammation in the intestines a cathartic is not needed. Should there be inflammation or obstruction the results may be disastrous.

(2) Don't pour oily drops into the nose of a child. There are many cases on record in which pneumonia resulted from breathing these medicaments into the lungs. Most of them do little if any good. The "strong" drops used to "invigorate" by penetrating the lining

of the nose are distinctly harmful by their irritating effects.

(3) Don't rub his chest with medicated greases. They only add to discomfort. If you have to satisfy grandmother's urge to grease, use vanishing cream and be sure to wipe the chest dry afterward.

(4) Don't attempt to alkalinize. Contrary to the dire warnings of your popular radio announcer, your child does not have acidosis. If he is in that imminent physiologic state, he will need more technical treatment than you yourself can supply.

(5) Don't let the child talk you out of remaining in bed as long as he has fever. In the case of an infant, remember that it is just as easy for him to fuss in his crib as it is in your arms. He can rest much better when he lies down than when you carry him around.

(6) Don't take it for granted that sneezing and sniffling are due to "nothing but a cold." Let your doctor make the diagnosis. He may not only reassure you, but he will outline a sensible method for treatment.

(7) Don't overlook the fact that the common cold is the most contagious disease known to man. Unless you use ample precaution you and every one else in the family may contract it. Wash your hands with soap and water every time you come out of the sick room. If you have confidence in a mask, wear it. But don't be too optimistic about its protective virtues.

(8) In the interest of your neighbor's children don't send your youngster to school with a runny nose. Perfect attendance is no longer a fetish with well informed teachers.

Girth Control

(*Continued from page 780*)

It would require an intelligent girdle to decide just when to stop reducing excess fat so that it could thereafter be worn without causing further losses of normal desirable fat. If the wearing of elastic belts really caused increased movement of abdominal muscles that actually massaged away excess fat, or if belts oxidized fat as generally claimed, they should not be worn by any one who wishes to maintain normal weight and fat. No satisfactory evidence has been produced to show that wearing of these elastic belts causes the abdominal muscles to do any more work than they would without the belt. Claims are often made that the elastic within these reducing girdles increases the action or pull of the abdominal muscles by reacting against them, but the simplest principles of physics destroy this claim.

Even if the belts really brought about actual massage of fat and muscles, or caused fat to be massaged between the belt and muscles as claimed, scientific evidence shows that the effects of massage are not the same as those of active exercise. It is claimed for some alleged reducing belts that they substitute for muscle action, thus resting the abdominal muscles, while others are said to cause increased action of these muscles. There has been no scientific evidence that elastic girdles produce any different effects from the ordinary rigid, semi-rigid or semi-elastic foundations and corsets such as are commonly worn, providing the wearer does similar amounts of bodily exercises and eats the same. Active and voluntary exercise of abdominal and other muscles of sufficient degree will actually oxidize fat and cause loss of weight, but no greater losses occur while wearing elastic girdles than without them.

Although many people believe that reduction of fat is effected by the massage of a masseur, or by use of rollers and girdles without resort to rigid restriction of diet and regular exercise, specialists in massage and those versed in treatment of obesity oppose such opinion. The following statements, taken from textbooks, form the consensus of

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those familiar with effects of massage:

"The patient must help himself (by diet and exercise) or the work of the masseuse will be wasted."

"To substitute massage for physical exercise in reducing schemes is well-nigh futile."

"Now, let us puncture another fable. Loss of weight through massage alone is pure buncombe."

"The masseuse is the only person who ever lost weight through massage alone."

"Any pretension that fat is removed from your tissues by local massage is not supported by fact."

Many wearers of rubber girdles find them uncomfortable through accumulation of sweat next to the skin. This factor is more bothersome in rubber girdles, even though perforated, than in those woven from elastic threads. Some companies have claimed prior to sale that their belts are perfectly comfortable since they supposedly allow perfect ventilation by cooling through evaporation of perspiration, but after the sale they have claimed that collections of perspiration between belt and skin are necessary to obtain the desired fat losses. There is no loss of fat through pores (sweat glands) beneath the belt or elsewhere. Seeming increases in perspiration beneath the belt should be ascribed to the decreased rate of evaporation beneath the belt. Even if there is some increase in sweating, it takes place throughout the body and normal evaporation continues from other parts of the skin, particularly those exposed, keeping the body at a normal temperature. Water lost by perspiration is soon replenished by drinking liquids. No losses of fat can be expected through increases in metabolism while wearing these belts.

Elastic belts while being worn may give temporary appearance of decreased abdominal size. Removal of the belt at night, however, shows the same size, the same sagging and same degree of obesity unless there has been regular and radical changes in diet or increased amounts of exercise.

A person who needs real support or bracing of the abdomen and back generally requires an individualized prescription of a special belt of rigid or semi-rigid structure. In such cases, elastic belts generally do not even afford the desired support, much less cause the promised strengthening of muscles.

Those who have overly large breasts due to excess fat deposits are often advised to buy massage creams, rollers or modified breast pumps operating on a suction or vacuum principle. Commonly, similar measures are also advertised and sold as an alleged means of enlarging breasts that are too small from lack of fat. Massage with the hands or by means of a device is entirely worthless either for reducing or for building up fat in the breasts. The milk secreting glandular tissues within the breasts, together with the fat, determines their size. The variable states of these glandular tissues are controlled by internal secretions or hormones from several endocrine glands which are not capable of being affected by massage of the breasts. The supporting bands of fibrous tissues within the breasts which may affect contours likewise remain unchanged by massage. Books, now being advertised to the public, supposedly teach effective culture (increase or decrease) of the breasts, but after purchase the books are found to be practically free of valuable or practical information save that overly fat women with large breasts should reduce their size and weight by diet and exercise and wear brassiers. Thin women with small breasts are generally told to eat more to increase fat over the body and exercise the muscles of the chest on which the breasts are fixed.

The obese are often invited or urged through newspaper advertising to visit local salons or so-called reducing parlors, some of which have elaborate massaging machines and use other forms of massage alleged to remove fat without diet or exercise. Some use hot water baths and heat cabinets which may indeed cause temporary losses of several pounds in weight largely through excess sweating, but former weights are promptly restored as soon as the resultant thirst is satisfied by drinking liquids. Visitors to these salons who continue their former habits of eating too much without sufficient physical exercise will generally maintain their former weights.

The obese must learn that belts and devices will not do their reducing for them. There is no royal road to reducing.

Practice in ear training helps the child to discriminate between different sounds. In this exercise, he may clap whenever he hears a certain sound on which he needs help.

The Children's Speech Clinic: III

By RUTH E. BECKEY

DOES YOUR CHILD substitute or omit sounds in words? Does he say "tat" for "cat" or "din" for "green"? Perhaps, he simply leaves out the initial sounds of many of his words.

Are you to conclude that your child is a speech defective just because he substitutes a few sounds? You say, "Oh, he'll outgrow it. I never heard a child who didn't make some errors." That is true. One must expect certain irregularities in a young child's early speech. Since the speech articulatory apparatus is complicated as it is, it is remarkable that the child learns speech as soon as he does. Many sounds are difficult to distinguish. For instance, the "m" and "n" sounds are very much alike and may be confused if the child does not observe lip movements carefully. The same difficulty may be had in hearing the difference between the "f" and the "th," as used in "thin." Added to this problem of the similiarities between some of the sounds are the various defective sound substitutions which the adults in the home use. The German grandmother may be using a "d" sound for the "th" sound, making "mother" sound like "moder." Consequently, the models of speech which the child imitates must cause as little confusion as possible.

All of the sounds, p, b, m, t, d, which are easily seen when produced, cause the least perplexity for the child. He usually makes substitutions for the back sounds, k, g, ng, l, j, r, because he cannot see the tongue positions. Consequently, we hear "tat" for "cat," or "din" for "green," since the sounds substituted are easily seen and present a similar explosive sound. If the child continues to make substitutions and omissions until the age of 5, the parent may conclude that the child has a speech defect. Immediate steps toward its correction should be made before the problem becomes more complicated, or before the child attains the sense of his inferiority.

A few months ago, a 5 year old girl came to our clinic who had practically all of the speech substi-

tutions and omissions that could be made. She was an only child who had received too much attention in the home, and whose parents enjoyed using baby talk with her. As a result this young "glamor" girl was quite infantile in her speech growth. She would say, "Me don't know." Her speech responses contained no "w"; "f" became "s," "p," or "t," and "s" was "t." The word "green" was "din," and "red" was "e," "fish" was "pish," and "wagon" was "agon." However, she was so young that none of the feelings of inadequacy had developed.

Another child who was older came to the clinic because of his indistinct speech. He was eleven years old, had normal intelligence, had a hearing loss of 15 per cent in the left ear, and had been slow in learning to talk. His first interview indicated that possibly we had a problem case with which to deal. He shrugged his shoulders and made no responses when asked a question. He would turn his head away from the examiner and look out of the corners of his eyes, as though surveying the dangers of the situation. His first reading of a simple story was entirely unintelligible. He apparently made no consonants whatsoever. On examination of individual words, he was found to say, 'egg' as "ed," "wagon" as "a," "letter" as "eder," and "watch" as "a." This child had been allowed to proceed in his class work along with the others with no speech help. After he became convinced that we could help him speak like any normal boy, he worked diligently and in a few months he made unusual progress. He had excellent cooperation from his parents who brought him regularly to the clinic.

Still another child, who was allowed to drift until she became a junior in high school, came to the clinic with the speech substitutions of a child. She was found to have normal intelligence. Although she had poor discrimination of speech sounds, her hearing was practically normal. Her mother reported that she had never talked plainly. She now spends three hours weekly in the clinic, in addition to two hours daily work at home. Overcoming her speech defect is the most important thing in her life now that she wants favorable social responses. After diligent practice, she will be able to talk as any normal person, but poor speech for sixteen years is much more difficult to overcome than the speech defects of the 5 year old with his less firmly established habits.

Two college students are having a most difficult task of overcoming some infantile speech habits. Until recently, one fellow was too shy to come to the clinic even to ask about his speech. The other fellow shows many emotional maladjustments. Both young men have suffered a feeling of speech inferiority since childhood. Imagine a young man saying, 'Woo you wet me wight the wamp?' for "Will you let me light the lamp?" The substitution of "w" for "l" makes his speech sound childish. The other fellow has a bad lisping "s," which gives a sputtering "th" sound. Both of these young men are convinced that life will be much happier for them when they are able to communicate with a normal speech suitable to men of their ages.

As the preceding descriptions of the various clinical cases of speech disorders indicate, the causes for sound substitutions may be both functional and organic. Fortunately, many of the substitutions of children are due to faulty training, too much isolation, overstimulation, defective models for imitation and too much criticism by the parents. However, many of the organic defects of the speech apparatus may be repaired if the child is taken to the surgeon or orthodontist early enough. The teeth may need to be straightened before the child can say some of his sounds. If the front teeth have not appeared yet, and the "s" is defective, the best plan is to wait for the teeth to appear. The "s" may take care of itself. If hearing is suspected to be defective, an audiometer check should be made to determine whether the child is hearing all of the different speech sounds accurately. The parents should also try to remove any unfavorable factors in the child's environment which may be impeding his progress.

After certain existing organic factors and psychologic influences have been eliminated, actual speech reeducation may take place. Articulatory defects may be approached from the auditory, visual, or kinesthetic methods. If the child makes several substitutions, start on the most simple sounds first. The order of the sounds according to least difficulty are p, b, m, t, d, n, th, f, v, s, z, k, g, l and r.

You may help your child to discriminate between sounds more accurately by playing games with him. For instance, you may make a hissing sound, "s—s—s." You may say, "Did I hiss like a snake, 's—s—s,' or make a noise like the goose, 'th—th—th'?" Other sounds which you may include in your game of distinctions may be, "Did I 'f-f-f-f' like the cat or 'th-th-th-th' like the goose?" and "Did I 'r-r-r' like the angry dog or 'woo-woo-woo' like the wolf?" Picture books with animals will furnish stimulation for the various noises that are produced. You may say, "What does the cow say?" The right response brings "moo, moo," which helps the child to acquire a stronger "m" sound. With imagination the parent can think of many possibilities to help the child to attain correct discriminations. Simple stories may be read with this type of suggestion to the child: "Listen carefully. Whenever you hear the sound like the snake makes, 's-s-s,' clap your hands." Children like to do this. Any sound which gives the child difficulty may be practiced in this way.

After you feel that the child has a keener discrimination of the various sounds and of those with which he has the most difficulty, you may ask for the sound to be made in isolation. You say, "Now I am going to let you make the sound like the cat makes, all by yourself. Remember the cat said, 's-s-s.' Now you say it." In many cases, the child can reproduce it correctly.

However, some children continue to be confused with a particular sound. You may have to show them how to make the sound. Some speech workers use the mirror as an aid. Give a small mirror to the child and say to him, "Now watch how I make an 's,' and see if you can make it as I do." If this fails, the mother may have to resort to the motokinesthetic method, which is the actual manipulation of the speech apparatus until the desired sound results. Since this method is extremely technical, parents are usually obligated to leave its use to the experienced speech clinician.

Each individual speech sound must be strengthened before attempting to combine the sound as part of a word. You can not expect the child to say "cat" as soon as he

has learned to say the "k" sound. Invariably the child will say "tat" as usual, if proper slowness of procedure is not followed. When attempting to combine the sound with the rest of the word, the helper may prolong the sound in this manner, "s—s—s" and then add the rest of the word "oup" rather suddenly, not allowing that "th" to slip in between the "s" and "oup" as in "s-th-oup." Gradually, the word may be said faster.

In order to make the newly corrected sounds become part of the child's everyday life, the child must practice every day. Two or three fifteen-minute periods daily are advisable in which games are played, stories read and correct speech practiced. A special speech chair may be designated, or the dinner hour may be the time for talking correctly. At any rate, a special time for speech work is important.

Following are general suggestions that may prove helpful to parents in their guidance of children who make sound substitutions:

(1) Ascertain what facilities for speech correction exist in your community.

(2) If you find a speech clinic, visit the speech instructor and find out what you can do to help your child.

(3) If your child is already receiving treatment for his speech disorder, be ready to cooperate with the suggestions made by his teacher. Experience has shown that children who receive daily help at home improve much more rapidly than the children who depend on their weekly lesson.

(4) Improve your own articulation and manner of talking. The child imitates your speech.

(5) Don't discuss your child's speech difficulty in his presence.

(6) Do not criticize the child for his incorrect speech.

(7) Allow the child to develop independence. Let him do some things for himself.

(8) Too much attention to the child's needs may keep him infantile.

(9) Remove any physical handicaps which might interfere with good speech production.

(10) Do not expect the child to be cured immediately.

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Clinics for the Childless

(*Continued from page 790*)

a change in number of sex hormones in the blood. By checking these various things he can determine accurately whether or not the woman is depositing an egg in normal fashion midway in her menstrual cycle.

At times, the problems presented are almost hopelessly complex, involving difficult factors in both man and wife. Such was the case of a young California couple. Both were extremely anxious for children. Examination revealed that the husband had an abnormally low metabolic rate, and was badly run down. The physician prescribed a regular routine of thyroid which would increase the metabolic rate and generally step up the pace of bodily activity. In addition, he ordered the husband to a gymnasium for regular exercise.

The wife presented far greater difficulties. Her fallopian tubes were blocked, and her uterus was far enough out of position to require surgical readjustment. In addition, there were minor complicating factors. A year and a half was required to correct these conditions, but in the end the wanted pregnancy was achieved—much to the couple's delight.

The relation of good health to fertility can't be overestimated. It explains many a puzzling phenomenon. Every one knows of cases in which a couple, abandoning hope of having a child, have adopted one, only to have a child of their own appear a year or so later. Mysterious to the layman, such cases are readily explained by the physician. A new interest in outdoor sports or play with their adopted child may have improved the physical status of both partners; mental tensions—always a depressing factor—may have been relaxed.

Another frequently noted puzzle is the fact that partners in a sterile marriage will be divorced, remarry, and both have children by their new mates. Again, the explanation is simple. Both partners of the original marriage were slightly below the reproductive threshold. On remarriage they were mated to highly fertile people and children became possible for them.

Successful termination of difficult cases repays the physician with gratitude unmatched elsewhere in the patient-physician relationship. To people deeply in love with each other, a wanted pregnancy brings happiness which they feared would never be theirs. Such people almost always bring the infants born after treatment to call on clinic physicians. One delighted Pullman porter named his child for one of the attending doctors.

In a small proportion of cases, when the male is hopelessly sterile, donor fathers represent a possible solution. Despite widespread publicity, remarkably few cases of this are reported in medical literature.

Research has already done away with many old beliefs: that fertility of the human race is declining; that the poor are more fertile than the rich. Yet many questions concerning the mysteries of human reproduction remain to be answered. Well-equipped laboratories are at work at New York Hospital, Johns Hopkins, the University of Pennsylvania and elsewhere.

This large-scale attack on an age-old problem holds alluring promise for the childless home. A large percentage of those who could not have children yesterday may have them today. A still larger percentage will have them tomorrow. The achievements already recorded represent one of the most heartening things that has ever happened in the practice of medicine.

SENSITIVITY TO VITAMIN B_1

Another probable instance of sensitivity to thiamine hydrochloride (vitamin B_1) is cited in *The Journal of the American Medical Association* by Leon Schiff, Cincinnati. Skin tests done with two of the preparations of the vitamin given the patient revealed a sensitivity.

Why We Lose Our Teeth: I

(Continued from page 814)

the future observer may also be excused for regarding them, rather than the square-jawed, heavy-faced type, as true representations of twentieth century Homo sapiens.

Loss of Teeth Not Inevitable

A bright spot in an otherwise discouraging picture is afforded by the strong probability that the current condition of our teeth is a manifestation of something that is not—and need not be—a permanent attribute of the human race. All about us we see civilized human beings suffering from caries, pyorrhea, malocclusion and other dental ills. We also see the dentally superior primitive peoples being dragged into the net of civilization and losing their fine teeth almost immediately. It is natural that we should throw up our hands in despair and pronounce the coming extinction of human teeth inevitable, as many prophets of doom have done. We have already quoted several of them. Here is what Ales Hrdlicka told a group of American and Canadian dentists in 1911:

"The elimination of the 'wisdom tooth' is common . . . and there are already signs that other teeth, such as the lateral incisors . . . will follow the same direction, the use still grows less, and the teeth tend constantly toward a still lesser size, lesser numbers and lesser durability. These conditions are responsible for a great many irregularities in the position of the teeth and for most of the pathology of the teeth, the gums and the jaws. They are most marked in the highly civilized white man. On the whole the evolution of the human denture . . . can be regarded as a process of very gradual degeneration.

". . . in the future the tendency toward congenital elimination of additional elements will continue. . . . The future of human teeth is therefore not hopeful, and your profession, gentlemen, will doubtless increase in importance. Eventually, after a great many thousands of years, man's jaws may, in fact, become quite edentulous."

This address was given thirty years ago. Today Hrdlicka might present his views somewhat differently. It may be true that man is on the way to becoming edentulous, but all the evidence we possess today indicates that his loss of teeth is not inevitable. It is not seemingly an evolutionary tendency, for, so far as we can discover, nothing has happened in the human germ plasm that indicates a radical change in our dental condition.

The marked deterioration observed in the teeth and jaws of savages newly exposed to civilization is not an inherited or evolutionary characteristic but something that takes place suddenly, often within the life of one generation, and almost certainly through environmental causes. And while only a few cases of reversion among human beings are on record—civilization is so attractive that most people are willing to pay the price demanded by it—we do know that when a group of newly civilized persons reverts to primitive ways and primitive diet, the teeth of subsequent generations revert to the superior condition found among primitive people.

Probably the human race has been no more permanently injured in respect to its dental condition than it has been in respect to infection from smallpox. Not so long ago every one expected to have smallpox, and the majority did. But we do not therefore consider ourselves and our children predestined to have it. We believe that if we can eliminate the causes of such diseases we shall be free from them and that if we cannot eliminate the causes we can at least hope to build up resistance or create an artificial immunity that will greatly reduce their ravages. In other words, we are probably no more a dentally foredoomed race than we are a smallpox-foredoomed race. As mod-

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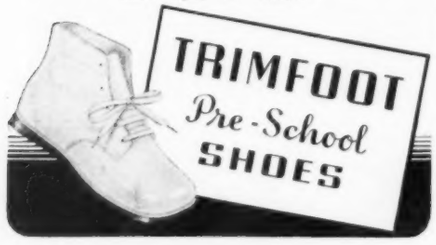

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ern biologists tell us, it has never been shown that something happening to the body—even though the same things happen to millions of other bodies during thousands of generations—has any effect on the germ plasm in which the future characteristics of the race are guarded.

This is not equivalent to saying that no change can happen to the germ plasm, for changes do happen and when they do they may be responsible for new variations in species. What we wish to emphasize is that there is no reason to believe that such a change is taking place in the case of our teeth. If we can discover and eliminate the causes of our dental ills, we can in all probability free ourselves from them.

True, the suggestion has been made by numerous writers, from Lamarck down, that certain changes brought about in the physique of persons during a number of succeeding generations finally become germinal or hereditary. This may be so, but we have no proof of it. In fact, it seems today that all the existing evidence is on the other side.

We shall do well to remember that the present dental condition of any animal is due on the one hand to inherited and inherent characteristics and on the other to the immediate effects of the environment. We are still trying to sort out these different characteristics in the case of teeth, and while this goes on we must be careful not to form a rash conclusion that any doubtful character is hereditary. Characters that are inherited may be quite meaningless for the present life habits of the race, but they may go on and on through innumerable generations, no matter what may happen to them in particular persons. Such a character is the vermiform appendix. Deterioration of the teeth, however, is probably in the great majority of cases due to environmental rather than to hereditary causes.

These two factors, habitus and heritage, sometimes are in harmony and at other times work at cross purposes. As W. K. Gregory says, "Both sets of characters are adaptive, but the first set are adapted to . . . present life habits; and the second set were adapted to the different life habits of (the animal's) ancestors." Of course, the animal's ancestors, too, possessed both kinds of characteristics, and so on *ad infinitum*. Rarely in nature, except for certain simple organisms, do we find creatures ideally adapted to their environment.

Older biologists have made much of the "usefulness" of certain characters and have, at least by implication, endowed animals with superhuman and even supernatural intelligence in their assumed ability to obtain and keep these "useful" variations. We know now that the usefulness of any character cannot be shown to carry the promise of its survival but that those animals which possess characters in harmony with their environment are most likely to survive—unless the environment changes. Putting the matter in a negative way, as we must do to make it apply to human teeth, we know of nothing that militates against the survival of animals in which specific deteriorations do not prevent adaptation to their environment.

Next month Dr. Brekhus concludes his discussion of the biologic factors in our loss of teeth.

MEASUREMENT OF DRUG LEVELS IN THE BLOOD

A new, rapid bedside method for determining the amount of sulfanilamide, sulfapyridine or sulfathiazole in the blood stream of a patient is reported in *The Journal of the American Medical Association* by A. G. Sheftel, Beverly Hills, Calif.

The method the author devised is, he says, "simple and accurate and can be performed in a few minutes at the bedside or in the office." It is a modification of another method which requires laboratory facilities and for which chemicals are used which deteriorate in time. The chemicals used in the new method are in tablet form and keep indefinitely in dry form. They also work more rapidly. A special color meter has been devised for the test which can be carried in a bag or pocket.

Prehabilitation of Registrants: III

(*Continued from page 801*)

these teeth through the gums so that they may function and actually take the place of teeth that are missing. In other instances such teeth may have to be removed. Whatever the remedy, it is wisest to do something about them if you have such teeth.

INFECTED TEETH

Many times, teeth are broken off and the roots are left imbedded in the gums. These should be removed as a rule because they may be infected. Such teeth and roots may cause infections in the mouth, swellings, growths, or even tumors in the jaw, in the cheeks or in the glands that supply the saliva. Such swellings are often disfiguring and may even suggest deformities. In order to be certain about your teeth, have them examined at once and thereafter at least every year. X-rays are useful in detecting cavities, infections or growths, if they are of consequence, which otherwise may not be seen.

CROOKED TEETH

Small, underdeveloped or large overdeveloped jaws, with retruding or protruding upper teeth that fail to meet the lower front teeth on any jaw movement can be corrected so that the teeth will come together. Normally, the upper front teeth should overlap one-third of the lower front teeth when the jaw is closed. Many dentists render this kind of dental service. A dentist who does not conduct a general dental practice, but who specializes in the straightening of teeth is called an orthodontist. Crooked teeth, teeth that do not meet, and deformed teeth and jaws can be corrected as a rule by the family dentist. If special skill is required, the orthodontist should be consulted. While crooked teeth may be straightened in childhood, it is still possible to accomplish much in certain instances even in adult life.

Many registrants can undergo this kind of treatment to advantage.

PREVENTIVE DENTISTRY

By attending to these simple dental needs, you can improve yourself, your appearance and your health. You can prepare yourself for examination and for service in the defense of your country, or improve yourself for work in civil life. In doing this, you will be practicing personal preventive dentistry. This, in turn, will benefit you now and in the future. If you take care of your dental defects early—as soon as they are discovered—you may protect yourself from future disease of a more serious nature which will be more expensive and more difficult to treat.

Bad teeth and gums constitute a hazard which should not be tolerated, because they so frequently lead to illnesses which may cause unfitness for service of any kind—the office, farm, factory, or armed forces. You may think that you can "get by" with dental diseases and still carry on. Possibly you can for a while, but under such circumstances you may not be as fit or as efficient as you think. Certainly you are not fit enough for the armed forces or for any form of strenuous life. You will not be considered fit enough for service—even for limited service. It is questionable also whether you will retain the health necessary to work on the farm, in the office, or in industry. As the years pass many illnesses may beset you because of the presence of infected and neglected teeth which might have been avoided had these dental defects been corrected in early life. Why not face the issue squarely now, dispose of the dental defects immediately and fit yourself for service and for better health?

If you are interested in restoring and conserving your dental health you should visit your dentist for advice and for recommendations as to treatment.

If you will regard your body as your most priceless personal possession and then give it the care you would expend on any other cherished possession, you should become a strong citizen, well equipped to answer any call, civil or military. Your health and welfare is in your own hands to dispose of as you see fit.

Remember that the health of your teeth is essential to the health of your body. The health of your body is at present of crucial consequence to the welfare of your country in its plan of national defense.

NOTE

For other material relative to the suggested prehabilitation program of registrants, see HYGEIA, August, page 626: Minimum Requirements of the Selective Service Regulations; and September, page 695: Rid Yourself of Minor Defects.

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BOOKS ON HEALTH

Healthful Living

By Harold S. Diehl, M.D. Cloth. Price, $2.75. Pp. 499. Illustrated. New York: Whittlesey House, McGraw-Hill Book Co., Inc., 1941.

Many books about health, no matter how meritorious they may be, are dull. Not so this book of Dr. Diehl's, which is not only authentic beyond question but easily readable and indeed enjoyable. It covers every conceivable field of health interest in which discussion and information can be helpful to the lay readers and avoids those fields in which there is nothing to be gained by the lay readers, namely: diagnosis and the technical aspects of the treatment of disease.

The book is particularly notable for its restraint and sanity in discussing those problems in which faddism and opinionated thinking are most common, namely: diet, exercise, vitamins, tobacco, alcohol and sex.

In the appendices are included tables of standard heights and weights (about which the author has previously had some wholesome words of caution to say), extensive tables of nutritional values of various foods and a personal health record, including data as to physical examinations. There is a good index. This book should continue and enhance the popularity of the first edition as a standard reference text and manual on healthful living for any one who is interested in better health.

W. W. Bauer, M.D.

Who Walk Alone

By Perry Burgess. Cloth. Price, $2.75. Illustrated. Pp. 308. New York: Henry Holt & Co., 1940.

The attitude of man toward leprosy has changed greatly since medical science has developed more and more information concerning the disease. In Biblical days the leper caused horror and fright. Today, the leper arouses in the minds of those who know about the disease only true sympathy. For fifteen years Perry Burgess has worked in behalf of men, women and children with leprosy. He tells us there are about 3,000,000 lepers in the world, mostly in Eastern and Southern Asia and in parts of South America. There are some under 1,000 lepers in the United States, many in leprosariums maintained by the government. About 370 lepers live at all times in the great leprosarium in Carville.

Leprosy is surrounded with so much superstition and legend that few people even want to read about it. However, any one who picks up the story about Ned Langford as told by Perry Burgess will read the book to the end and will be left with deep sympathy and with a desire to do everything that can be done to aid those who are unfortunate enough to have been afflicted with this disease. The reader will, moreover, gain vast respect for the type of courage that can make the sufferer from a well nigh incurable disease abandon thought of suicide and devote his life to other unfortunates who are likewise condemned to a secluded existence.

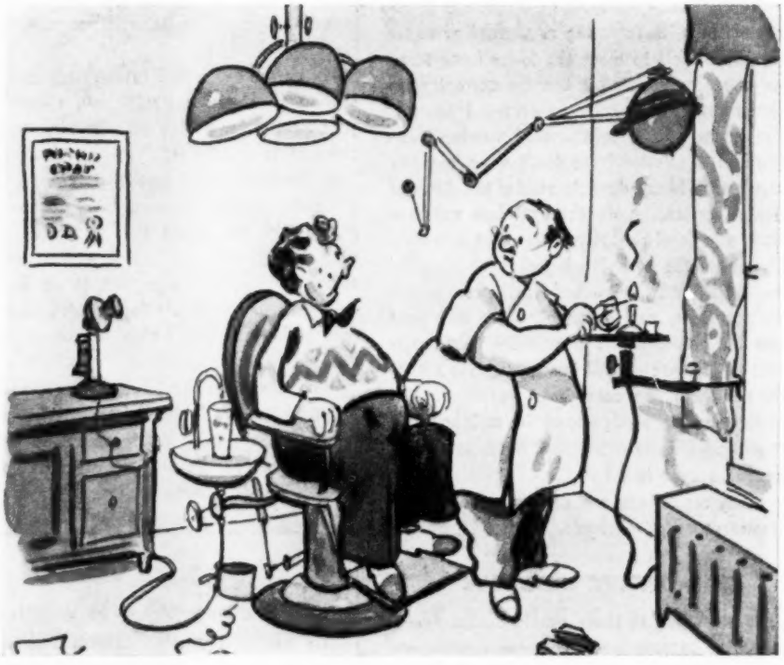
This is a story of a triumphant battle against disaster. It is a story beautifully told, handsomely illustrated, and vastly informative.

M. F.

In Search of Complications

By Eugene de Savitsch, M.D. Cloth. Price, $3. Pp. 396. New York: Simon and Schuster, Inc., 1940.

The writer of this autobiographic commentary is Russian by birth. Banished from his native land by the revolution of 1917, his travels have carried him far and wide: To Yokohama, to Harbin, half Russian, half Chinese city of the early '20s, back to Russia with the tattered remnants of the White armies, to San Francisco, Denver, Chicago,



REAMER KELLER

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"Those lollipops you used to give me when I was a kid are starting to pay dividends, Doctor."

Paris, Amsterdam, the Belgian Congo and to Vienna in the days immediately preceding the Anschluss. In the geographic sense alone there is ample warrant that the account of his life would be bristling with adventure. However, his pungent comments on the people he encounters and on his surroundings, particularly in this country, lend to the book an added interest and charm which a mere recounting of travels could not contribute. His experiences in medical schools in Denver and Chicago and his comments on the methods of teaching and a few of the personalities involved are particularly interesting to those engaged in medical education or to recent graduates of medical schools, though the absence of either viewpoint does not interfere with the amusement and thought stimulation of the discussion. The book is written with a clear and incisive style—far more so than many native born Americans achieve. It can be read with enjoyment either with or without attention to some of the keen lessons concealed beneath an urbane exterior. This book is a highly readable autobiographic sketch of an active life.

E. P. Jordan, M.D.

What Are Vitamins?

By Walter H. Eddy, Ph.D. Cloth. Price, $2.50. Illustrated. Pp. 247. New York: Reinhold Publishing Corporation, 1941.

This book is essentially a condensation of an enormous volume of literature on the vitamins which has appeared during the past ten years. It is a review which will be appreciated by students of nutrition and workers in this field because of its accuracy and the extensive bibliography at the end of each chapter. The material is organized into 13 chapters. Two of the chapters deal with the general questions "What are vitamins?" and "What do vitamins do?" Eleven of the chapters deal with the properties and functions of the vitamins which have been successfully isolated and whose chemical nature is established and the postulated vitamins not yet isolated or identified chemically. Formulas and chemical structures of those vitamins which have been identified and a table showing the vitamin content of many common foods are presented in the index. The vitamin values are expressed in international units for vitamins A, B_1, C and D and in micrograms for vitamin G per 100 grams (3.5 ounces) of fresh, uncooked food. The technical terminology used throughout the book makes it especially useful to persons who are versed in the science of nutrition.

H. M. F.

A Surgeon Explains to the Layman

By M. Benmosché, M.D. Cloth. Price, $3. Illustrated. Pp. 317. New York: Simon and Schuster, Inc., 1940.

In a simple, lucid, colloquial language, Dr. Benmosché describes the more common operations, such as the removal of an inflamed appendix, of a diseased gall bladder, or the repair of a hernia. In doing this, he displays a consummate skill in rendering lucid and simple that which is complicated. But he does much more: he introduces the reader to facts regarding the structure and the function of such organs as the lungs, heart, kidney and brain. Imperceptibly, there unrolls before the reader's vision the exciting and remarkable story of the discovery of anesthesia, of asepsis and of the birth of scientific surgery. To stir the reader's imagination is even more valuable than to instruct him, and the author succeeds in doing it. Having told of the marvelous accomplishments of the past, the author in his chapter on the surgery of the brain lifts the veil and permits the reader to peer into the future and see the almost limitless possibilities of science. At the same time the author has done a service to the surgeon. He has divested him of a false glamor as a miracle worker and has advanced him in the eye of the layman to the rank of a scientific worker. While scrupulously correct in every detail, the book is reassuring and optimistic.

George Halperin, M.D.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through Hygeia or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

Henry Holt and Company, Inc., 257 Fourth Ave., New York City.

Rheinhold Publishing Corporation, 330 West 42nd St., New York City.

Simon and Schuster, Inc., Rockefeller Center, 1230 Sixth Ave., New York City

Whittlesey House, McGraw-Hill Book Company, 330 West 42nd St., New York City.

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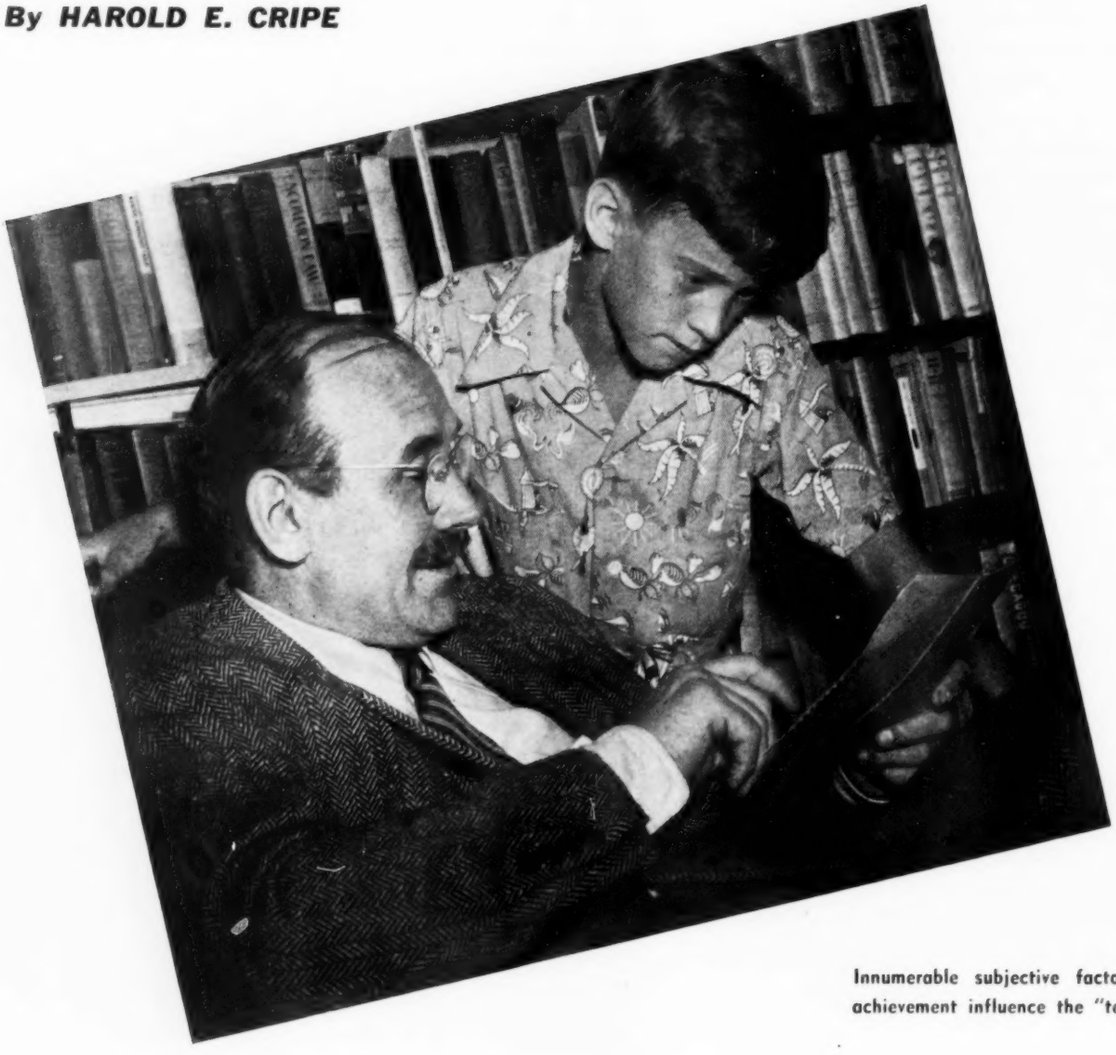
By HAROLD E. CRIPE



Innumerable subjective factors other than achievement influence the "teacher's mark."

The Other Side of the Report Card

SCHOOL ADMINISTRATORS, teachers and parents have long since recognized many fallacies within the system used for assigning and reporting marks for a student. Not a few leaders within the field contend that the most stagnant pool of American education is the traditional and futile application of "school marks" as the chief measure of pupil progress. Objectives of the whole educational system are apparently expressed by "marks" if one is to assume that the home report should express something of the objectives of the school.

The human factors involved in "marking" are the same whatever the system of marking. To change from A, B, C, D, F to I, II, III, IV, V is but to complicate and confuse the system still more.

Irrespective of the method used to express the degree of achievement, it is recognized that innumerable subjective factors other than achievement influence a "teacher's mark" assigned to a given pupil. Too often whispering, lack of courtesy shown the teacher, bad spelling, lack of neatness, or failure to agree with the teacher constitutes the unseen but real estimate of achievement. Such a statement does stand without serious challenge. Can it be safely concluded then that a report card which simply records the child's success or failure in school subjects must break down before some more objective means of recognizing and recording

the growth of the whole child? Several criticisms most commonly used against the traditional report card are listed in summary:

(1) The use of external rewards and threats such as the traditional card has always carried is seriously challenged by numerous mental hygienists and educators alike.

(2) Not only is the card a questionable motivating force, but it may develop unhealthy and unfair competition among children; in many instances this occurs among children already burdened by inferior intellects, nervousness, or serious reading debilities. Such marking systems encourage a superficial scholarship aimed only at "getting by." School marks become the only visible goal.

(3) Traditional marks may develop feelings of undue inferiority or superiority, which are opposed to real character development. Cooperation, not unhealthy forms of objectionable competition, has become a recognized fact in modern society.

(4) Extrinsic rewards for scholarship may develop the acquisitive spirit in children that demands pay in the form of a mark for effort toward self-improvement.

(5) Traditional marking encourages poor teaching. Pupils may be forced to conform to dull routine and accomplish uninteresting assignments of questionable value in order to meet certain arbitrary standards set by the school.

(6) Initiative, self reliance, and originality may be weakened by leaning too strongly on instructions and standards set by the teacher. The child may feel that success depends on returning intact and without revision all original information imparted by the teacher.

(7) Antagonism among pupil, teacher and parent are often engendered by unfavorable marks.

Arguments for using the traditional marking system are rather trite and equally well known:

(1) Marks must form the basis for judging entrance requirements for higher institutions of learning.

(2) Marks furnish some criteria for prospective employers to select their employees.

(3) Marks motivate study.

(4) Marks constitute a reward for good effort.

(5) Marks furnish the basis for awarding honors given for outstanding scholastic achievement.

(6) Marks furnish an easy way out for the school in giving parents an easily understood system of reporting pupil progress and ability.

(7) Parents and pupils want marks as a record of achievement.

It is impossible to foresee all arguments to be assembled for the oftentime outmoded marking system. The evidence of logic, psychology, sociology, fact, theory and experiment apparently indicate the trend is definitely away from the old. Simplification of marking plus a more intelligent effort to interpret the growth of the whole child appear to be the direction of newer type cards.

What should be the basic criteria for judging a good report card? A brief examination of the records reveals considerable agreement among school authorities:

(1) A good card should in some manner state the philosophy and aims of education.

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There are so many physicians and dentists throughout the country who always have some wholesome Chewing Gum handy for their young patients. They know it delights them and that the chewing helps exercise and clean the teeth—helps lessen tension, too. It's also grand to chew between meals because it doesn't take the edge off of normal, healthy appetites at meal time.

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YOUR TEETH

Our Food and Our Teeth, by Percy R. Howe. 4 pages. 5 cents.

The Care of the Teeth, by William M. Gardner. A study showing why the toothbrush has failed. Improper methods of brushing the teeth, the importance of applying pressure and proper toothbrushes and dentifrices. Illustrated. 18 pages. 15 cents.

Dental Nostrums and the Public Health, by Samuel M. Gordon and Eleanore Dufour. Three articles on the promotion of dental nostrums and dentifrices. 32 pages. 10 cents.

What the Mouth Can Tell, by Lester R. Cahn. 4 pages. 5 cents.

Taking the Child to the Dentist, by William M. Gardner. 4 pages. 5 cents.

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(2) A good card should likewise state to what extent this philosophy is being developed within the child recipient of the report.

Jones reflects a trend of opinion revealed by many on what a good card should accomplish. According to Jones a good card should:

(1) Measure pupil's performance on the basis of individual rather than group achievement.

(2) Measure character traits.

(3) Put greater emphasis on diagnosis rather than ratings in superiority or inferiority.

(4) Make no hair-splitting distinctions.

(5) Use class and individual graphs.

(6) Utilize or contain personal messages only when needed.

(7) Supplement visits, letters and phone calls between parents and teachers.

(8) Use simple and easily understood terms.

In any discussion of what constitutes a good or a bad card or whether marks should or should not be given, the conclusions drawn by Ayers are most pertinent and furnish what appears to be a most logical summary:

"The case for marks grants the misuses which have been made of them, but presents evidence of their essential value to our educational program. Experiments prove that learners make the best progress when they are aware of the rate of their improvement. Quantitative marks are essential for purposes of classification, educational guidance and educational research. The elimination or debilitating of teacher's marks does not do away with failure; it merely covers up poor work. The thing to do is to change the type of work so that the pupil can secure satisfactory marks. In the meantime the marks themselves should be made more reliable, more specific, and more discriminating. They should be used as checks and guides, rather than as rewards or punishments."

The importance of a problem is often measured by the extent to which known authorities disagree on the exact solution of the problem. Logic will at once reveal the decade just passed has witnessed much controversy about the entire field of proper home reporting. Some agreement on purpose is witnessed by certain marked and observable trends in the newer reports. Much controversy still exists, however, on the form which these report cards should take. An amicable agreement on this phase of the question is not only desirable but imperative.

The Job's Yours

(*Continued from page 811*)

balanced diet for a high school student to his later vocational success.

(29) Present an oral composition before your class regarding: "Health can not be put on like a new necktie or a different dress when applying for a job."

(30) A class committee could call on an industrial physician to ask him questions about some of the following topics. You will need to obtain permission from the employment office of the company first.

(a) Importance of present health to future jobs.
(b) Things to do now for future health.
(c) What the employer does for the health and safety of his employees.

(31) What kinds of work should not be done by persons with weak or defective eyes; with weak hearts; with poor hearing; by persons with other disabilities?

(32) What is health insurance? Report to your class what you learn about this topic.

(34) Two or three members of your class might prepare a blackboard chart or a large poster which would indicate some of the requirements for different occupations. Here is a sample:

Job Specifications for Salesperson

Physical Requirements

Good health for standing many hours
Good posture Vitality

Personal Requirements	
Courtesy	Enthusiasm
Poise	Pleasing appearance
Honesty	Pleasing manner

Desirable School Subjects	
English	Economics
Bookkeeping	Commercial Law
Salesmanship	

Suggested Readings for Students *

"Designs for Personality" by Bennett and Hand. McGraw-Hill Book Company: New York, 1938. See pages 127-152.

"School and Life" by Bennett and Hand. McGraw-Hill Book Company: New York, 1938. See pages 52-54, 72-76.

"Health for Body and Mind" by Walter F. Cobb. D. Appleton-Century Co.: New York, 1936. See pages 396-402.

"Careers" by Cohen, Ganley and Grady. Thomas Nelson and Sons: New York. Your Health and Your Vocation.

"Opportunity" by Cohen, Ganley and Grady. Thomas Nelson and Sons: New York, 1938. Part VI: Your Opportunities for Health and Recreation. Have you a Handicap?

"Be Healthy" by Katherine B. Crisp. J. B. Lippincott Company: Philadelphia, 1938. See pages 256-258. Chapter 16.

"Occupations in Retail Stores" by Dorothea DeSchweinitz. International Textbook Co.: Scranton, Pa., 1937.

"Health Factors in Attractiveness. Three Radio Talks" *Health and Physical Education*, May, 1939, Vol. X, No. 5. See pages 275-277.

"How to Choose a Career" by J. Anthony Humphreys. Science Research Associates: Chicago, 1939. See pages 30-38.

"I Find My Vocation" by Harry D. Kitson. McGraw-Hill Co.: New York, 1931. Chapter III.

"Vocations in Industry" by May Rogers Lane. International Textbook Company: Scranton, Pa., 1929. Part III in each of: Vol. 1: Agriculture, Forestry, Animal Husbandry; Vol. 2: Mining and Mineral Industries; Vol. 3: Manufacturing and Mechanical Industries.

"Planning Your Future" by Meyers, Little and Robinson. McGraw-Hill Co.: New York, 1939. Part I, Unit 17; Part III, Unit VII.

"Getting a Job in Aviation" by Carl Norcross. McGraw-Hill Company: New York, 1938. See pages 62, 271.

"Beyond the School" by Rexford, Smith, Sellin, Frabbito. Henry Holt and Co.: New York, 1933. Part VI, Chap. III-VI; Part III, Chap. IX-X.

"Personal Analysis and Vocational Problems" by Shively and Shively. McCormick-Mathers Co.: Wichita, Kan., 1938. Unit: Personality and its Vocational Significance.

"Healthful Living" by Jesse F. Williams. Macmillan Co.: New York, 1938. See pages 531-542. Chap. XXII.

"Physical Fitness in Adult Life" by National Dairy Council: Chicago, 1937. Pamphlet.

National Dairy Council Digests:

"Eating for Efficiency": June 1936

"Between-Meal Milk Service in Industry": October, 1936

"Between-Meal Feeding: Further Evidence of Its Value": July, 1939

Suggested Readings for Teachers or Counselors *

"Common Problems in Group Guidance" by Allen, Stewart, and Schloerb. Inor Publishing Co.: New York, 1933. Problems 4, 20, 22, 23, 47.

"School and Life" By Bennett and Hand. McGraw-Hill Book Co.: New York, 1933.

"Health Through Projects" by G. D. Brock. A. S. Barnes and Co.: New York, 1932. Section: Correlating Health with Other Subjects.

"Teaching About Vocational Life" by Mildred E. Lincoln. International Textbook Co.: Scranton, Pa., 1937. Chapter X and Appendix.

"Personal Analysis and Vocational Problems" by Shively and Shively. McCormick-Mathers Co.: Wichita, Kan., 1938. Unit: Health as a Vocational Factor.

"Life Adjustment Series" by Prosser and Palmer. McKnight and McKnight, 109-111 W. Market Street, Bloomington, Ill., 1936. Information and Practice Books; A Health Program, Chapter IV, Appendix C. Keeping Physically Fit, Chapter VI. Selecting an Occupation, Chapter IV-V.

"Personal Hygiene" United States Public Health Service. Supplement No. 137, United States Government Printing Office: Washington, D. C., 1938. See pages 16-19.

* These books are not obtainable through the American Medical Association. Write directly to the publishers, or consult your local dealer.

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Medical News

OF THE MONTH

Military Field Sanitation

Although the problems of military field sanitation are important and complicated, "they are less serious and less difficult to solve than are some of those created by contact between the troops and the civilian population," W. A. Hardenbergh, Colonel, Sanitary Corps, United States Army, Washington, D. C., declares in *War Medicine*.

For the solution of these problems, Colonel Hardenbergh says, "efficient local and state health departments are needed, with the fullest and most sympathetic cooperation given and received at all times. The present arrangements contemplate such cooperation, with an officer of the United States Public Health Service acting as liaison officer, in order that the fullest possible health protection can be obtained by the joint action of all agencies engaged in health work."

American Belladonna Root

American belladonna root is just as effective as the Bulgarian in the treatment of Parkinson's disease (shaking palsy or paralysis agitans) of the postencephalitic type (following inflammation of the brain), two groups of investigators report in *The Journal of the American Medical Association*.

The report is significant not only because of the controversy that has raged about the superiority of the Bulgarian root since it was first introduced as a treatment for parkinsonism in 1926, but also in view of the fact that the obtaining of medicaments from Europe has been halted because of the war.

Parkinsonism is a relatively common condition for which there is no recognized specific cause, except possibly encephalitis in some cases, nor any known specific or curative agent. The use of the belladonna root has no effect on the disease itself but merely on its symptoms.

J. C. Price and H. Houston Merritt, Boston, in their report in *The Journal* say: "It has been stated that in the treatment of patients with parkinsonism Bulgarian belladonna has a value superior to that of the belladonna grown in other countries."

Investigations by the two Boston men together with those reported in the same issue of *The Journal* by Howard D. Fabing and Meyer A. Zeligs, Cincinnati, substantiate previous investigations of the English, Italian and German root which showed that the geographic origin of the root was not a factor in its effectiveness in treating parkinsonism. Both the Boston and the Cincinnati investigators studied the effects of treating patients with both the Bulgarian and the American roots and agree that the method of extraction of the root seems to be the important factor in its effectiveness.

Helping Reduce Complications from Sulfathiazole

The administration of an alkali, such as sodium bicarbonate, with sulfathiazole, and possibly also with sulfadiazine, two derivatives of sulfanilamide, is advised by Leon Schwartz, Harrison F. Flippin, John G. Reinhold and Albert H. Domm, Philadelphia, in *The Journal of the American Medical Association* as a means of helping reduce complications.

The four investigators administered sodium bicarbonate in an amount equal to that of the drug to 37 pneumonia patients and compared the urinary findings with those of 63 pneumonia patients who were not given an alkali. The incidence and number of crystals of the drug found in the urine samples were distinctly less in the group of patients receiving an alkali together with either sulfathiazole or sulfadiazine, particularly with the group receiving an alkali with sulfathiazole.

A Foreign Body in the Nose

As a rule, it is easy to detect the presence of a foreign body in the nose, but occasionally the symptoms are so slight that they escape notice, Joseph C. Donnelly, Philadelphia, says in the *Archives of Otolaryngology* in reporting the case of a 7 year old child in whose nose a metal screw had been embedded for two years without any perceptible discharge or without its presence being known until detected by x-ray. He says that the girl had been referred to a hospital for surgical removal of the tonsils and the adenoids with the hope that her breathing, appetite and general health would be improved. For the previous two years she had had difficulty in breathing through the right nostril and was frequently troubled with a frontal headache.

Anesthesia by Reduced Temperature for Amputations

The reducing of temperature by means of ice water as a form of anesthesia for such operations as amputations is reported in the *American Journal of Surgery* by F. M. Allen of New York. The patient sits up with the extremity immersed in ice water about 1 inch above a tourniquet. Temperatures, taken by occasionally inserting an ordinary laboratory thermometer between the icebags and the skin, about 41 F. assure adequate chilling and safety against actual freezing. For an emaciated shin one hour may suffice for through and through anesthesia, or as long as five hours may be required for a rather thick thigh.

Baldness

"The man who would avoid baldness," Herbert Rattner, Chicago, says in the *Archives of Dermatology and Syphilology*, "had better use greater care in the choice of his ancestors, for [quoting from Shakespeare] 'There's no time for a man to recover his hair that grows bald by nature.'"